PRINTING PRODUCTION

Flask Holds $4000 Cost Saving Idea (SEE PAGE 5)

Do Production Men Really Understand Paper?

Feature Articles on Powderless Etching Processes

Few Business Failures in Printing Industry

Pass On: _____

SERVING PRINTING INDUSTRY
PRODUCTION EXECUTIVES EXCLUSIVELY

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Welcomes Fair Competition...

We believe in Free Enterprise . . . the kind of healthy competition that results when several competent firms engage in the same lines of business.

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In the interest of FREE ENTERPRISE, STAR PARTS invites competition.

Precision TRADE ★ MARK Parts

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SOUTH HACKENSACK, N. J.

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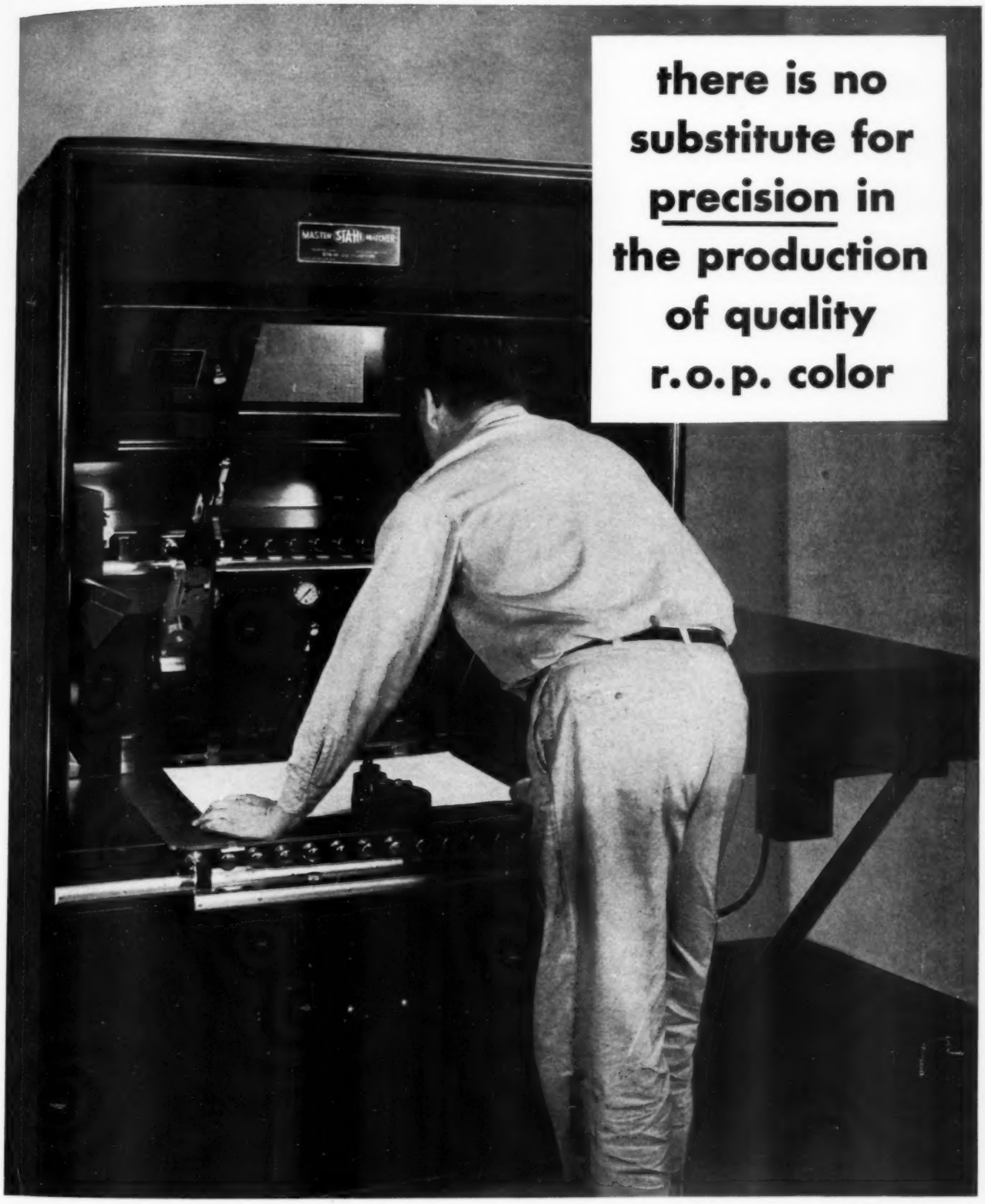

The Sta-Hi Master Matcher pictured here is only one in a complete line of Sta-Hi precision machines designed specifically to assure scientific accuracy in the registration of ROP Color material — from original engravings through stereotype mats, from which can be cast plates that are in close register when they go on the press! . . . Ask for information on Sta-Hi COLORMATICS and Sta-Hi COLOR-AIDS.

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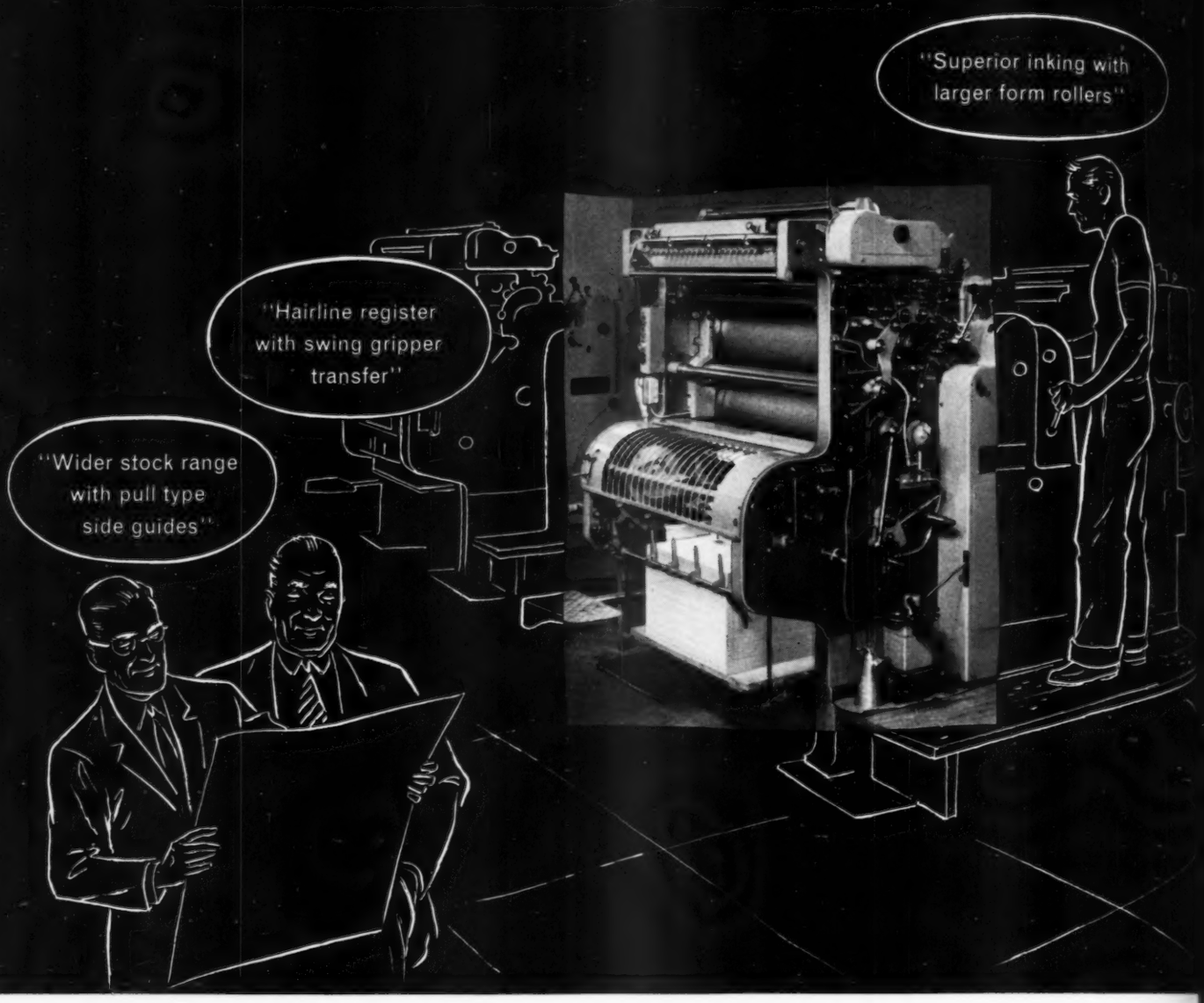
THE MIEHLE 25, 29 and 36 OFFSETS...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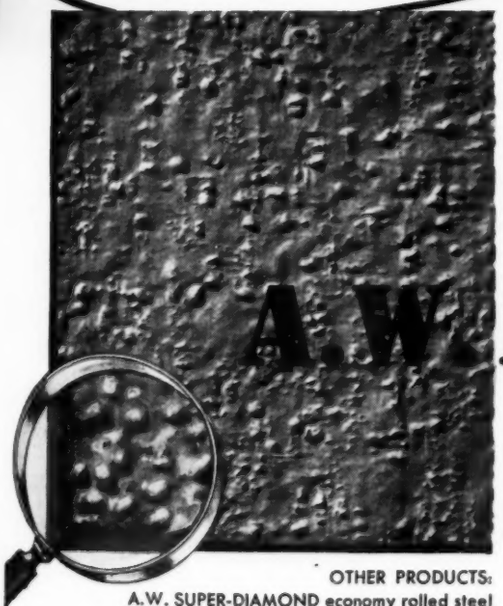

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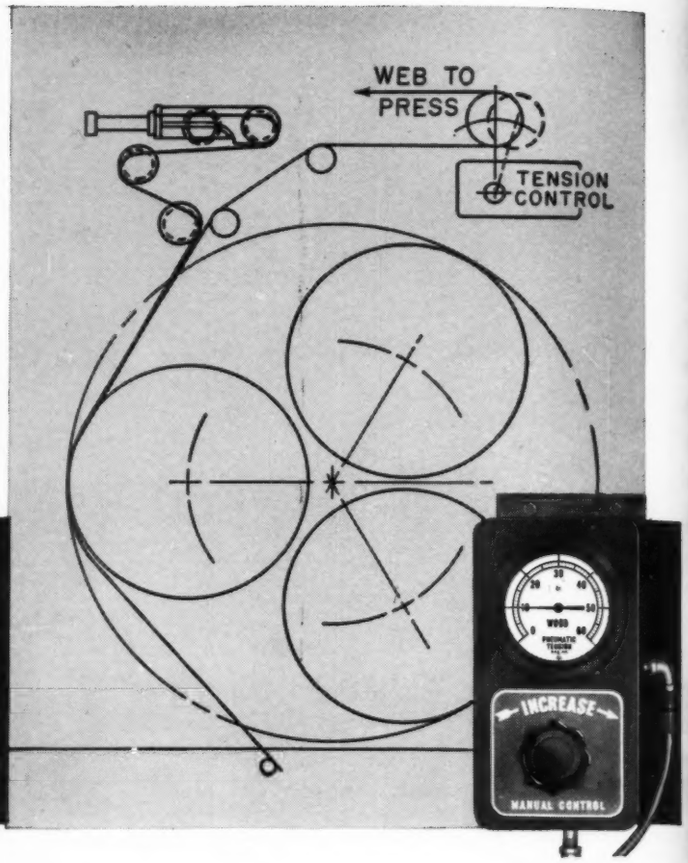

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OCTOBER 1958
VOL. 89, NO. 1

PRINTING PRODUCTION

formerly PRINTING EQUIPMENT *Engineer*

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in all major processes of the Graphic Arts industry.

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Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: Using the Cassia flask to test the condition of a powderless etching bath at the Minneapolis (Minn.) *Star* and *Tribune* is Carl Richter, an etcher in the newspapers' engraving department. Watching is Ebbie Jennison (left), engraving superintendent, and John Copeland, production manager. Richter devised a chart (see page 45) that shows the proper amounts of Solvesso No. 150 and acid needed to restore an etching bath to fresh operating standards. As a reseult of Richter's experiments with this project, the *Star* and *Tribune* is expected to save more than $4000 per year in engraving costs. While the idea in itself is impressive because of its cost saving implications, a further look also shows that the photoengraving field is alive to the need for scientific applications in its processes.

LETTERS
TO THE EDITORS

Pi Matrices on Photon

We have read Frank DeWitt's Letter to the Editor as published in your August issue. The principal reason for this letter is to point out that included in the Photon system is a Photon Pi-Mat attachment which we believe to be fast and simple in operation.

This attachment holds eight pi characters in a turret in the photographic unit. The assortment of pi characters may be changed at any time in a minute or so.

Eight keys are provided on every Photon keyboard (numbered 1 through 8) for the selection of pi characters in the keyboarding sequence. Pi characters up to 72 pts. can be handled.

I might comment on other attributes of the Photon system. Whatever design of type the customer wants can be provided. The equipment can be tape operated, enabling a complete editorial or correction cycle to be performed on tape. Photon's makeup guide enables area composition directly from the keyboard. Makeup is automatic and any layout may be duplicated from the keyboard.

The only point made by DeWitt which is not a standard feature of Photon is an infinite range of type sizes. This is not difficult to provide on the Photon, but until the trade will accept fractional sizes it seems foolish to provide this feature.

We concur with DeWitt that there is a vast potential in phototypesetting. The entire industry should investigate the economies offered by photocomposition. This is particularly true of that segment which sets type but does not use it directly in the actual printing processes.

W. W. Garth, jr., Pres.,
Photon, Incorporated,
Cambridge, Mass.

Our Error

In the nice writeup PRINTING PRODUCTION gave our company about the high speed rotary sheetfed letterpress in the August issue, p. 30, it should have been stated that the press size is 14 in. by 20 in. You had it 40 in. by 20 in.

John B. Webendorfer
Webendorfer Presses
Saugatuck, Conn.

More Letters About Our Name Change

It has been interesting to note the transition of *Printing Equipment Engineer* to PRINTING PRODUCTION. Please accept our sincere congratulations upon a job exceedingly well done.

John S. Williams, Vice President
Cox Lithographing Corp.
Warren, Ohio

We would like to add our congratulations to your list of subscribers who are finding PRINTING PRODUCTION an extremely worthwhile contribution to the Graphic Arts industry. It has already shown that it covers a wider field than its previous publication.

Reginald F. Wardley
National Blank Book Co.
Holyoke, Mass.

Congratulations on the new name for your magazine. By changing the name I get the impression that your goal is to keep readers abreast of progress in the printing industry.

James P. Haga, Machinist
Forest City Pub. Co.
Cleveland, Ohio

Our interest in reading your publication is usually for the purpose of improving our efficiency. The title, PRINTING PRODUCTION, is much more inviting.

Joseph W. Jackson,
Co-publisher,
Lake Charles (La.)
American Press.

Congratulations on the recent improvements in your magazine.

Kenneth W. Beckman, President
Invention, Incorporated
Washington, D. C.

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COMBINATION FOR UNSURPASSED QUALITY AND CONSISTENCY

Zn 100 etchant additive and TRIPLEMETAL 100, the *original* fine grain zinc alloy, perfected for machine etching

Zn 100 is available as a standard pre-mixed solution in 5-gallon containers . . .
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The use of Zn 100 falls within the scope of the Dow patents.

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Ludlow sluglines are easy to handle in make-up

Ludlow Make-up

Is Efficient and Easy with Sluglines

Ludlow all-slug composition expedites make-up operations, in that the solid sluglines are readily assembled in the form. The uniform thickness of the Ludlow slug, whether on a 6-point or a 12-point body, also greatly facilitates the handling of display or miscellaneous composition. Furthermore, with a Ludlow-set form the printer is sure of a solid, square lockup that minimizes pressroom troubles. Ease of make-up is only one of many advantages of Ludlow composition.

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Set in members of the Ludlow Karnak family

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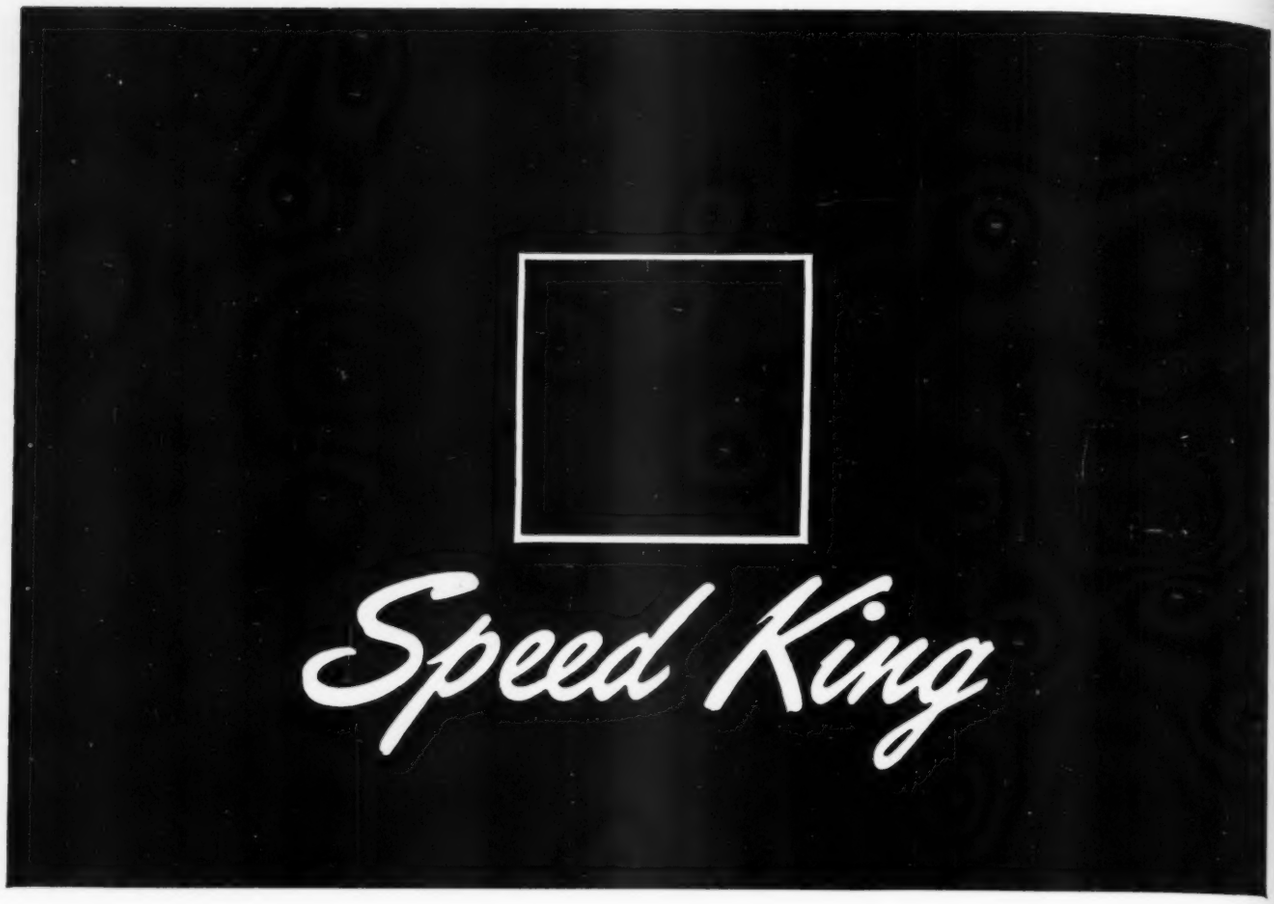

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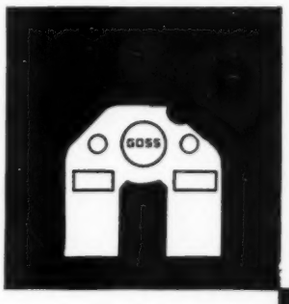
FULL COLOR DECKS

Consist of two printing couples ...provides numerous web lead arrangements for printing spot color or process color.

COLOR HALF DECKS

Half of a full deck . . . consists of one printing couple and permits a group of units to print color in any position on either side of web.



SINGLE COLOR CYLINDERS

Shares impression cylinder with unit's plate cylinder . . . can be mounted right or left for various color positioning.

No other press matches the Goss Headliner for ROP color flexibility. With color half decks, full color decks, single color cylinders, or super-imposed color units, you can *select* the arrangement, or any combination of units, to fit your requirements for the most efficient, most profitable operation.

All color units have such important Goss features as: continuous ink feed for the right amount of ink at any speed; tension plate lock-up for quality in color; exact ink control across the page with Goss floor level fingertip Colortrol, and single and double reversibility to provide even more flexibility. And, Goss also offers compartmented fountains for printing spot color in various page positions.

Increase ad revenue by making color available to advertisers—make plans now to add ROP Gosscolor to your operation. Our experienced staff will be happy to help you *select* the best arrangement.

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A Division of Miehle-Goss-Dexter, Inc

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Similar to Headliner unit . . . mounts right above press and is available in halves which can be joined to another at any time.

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featuring the new

PULSED XENON ARC TUBE

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- **Reduced Maintenance Costs**
- **Daylight Color Balanced**
- **Cleaner Light Source**
- **Constant Light Output**

Ascorlux is an historical milestone in graphic arts lighting . . . the result of years of painstaking research and development by a leader in the lighting field—The American Speedlight Corporation. Ascorlux is a complete system of electronic lighting which produces a daylight color balanced, high intensity, continuous light. A wide range of light units and power supplies are available, making Ascorlux ideal for use in plants of every size. It has been tested, approved and accepted as standard equipment by America's foremost lithographic organizations. This immediate and unqualified acceptance by seasoned cameramen offers conclusive proof that Ascorlux is by far the most efficient and economical system of lighting yet devised for the graphic arts industry.

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DEALER

Write for an illustrated data sheet, outlining your own specific lighting requirements.

American Speedlight Corporation
63-01 Metropolitan Ave.,
Middle Village 79, N. Y.

Circle 247 on Reader Service Card

NEWS ITEMS

Donnelley & Sons Names Executive — Winfred R. Isom has been named executive in charge of manufacturing operation for R. R. Donnelley & Sons Co., Chicago. The appointment fills a vacancy created last July by the death of John E. Grice. Isom will be responsible for all manufacturing operations at the company's plants in Chicago; Detroit; Crawfordsville, Ind.; Willard, O., and a new plant under construction in Warsaw, Ind.

ISOM

DAILEY

Lord Baltimore Press Appoints—R. Kent Dailey has been appointed to the newly created position of treasurer for Lord Baltimore Press, producers of folding paper boxes. Dailey's career has been largely devoted to the field of finance and management control.

Alan Wood Steel Promotion—Charles D. Dorworth has been named assistant to the president of Alan Wood Steel Co., it was announced by Harleston R. Wood, president. In his new position Dorworth will handle public relations and various other duties, including special assign-

Waldron Corporation Appoints—Vincent R. Stafford has been appointed sales manager of the newly established Offset Press Div., John Waldron Corp., according to Dale Higgins, general sales manager of ments.

STAFFORD

WAGONER

Nebraska Newspaper Promotes—L. L. Wagoner has been appointed mechanical superintendent at the Omaha (Neb.) *World-Herald*. Wagoner has been with the newspaper for 18 years. Also announced was the retirement last month of T. F. Gougarty, production manager.

Goss Sales Engineers—Transfer of Jack Robbins, sales engineer, from New York, N. Y. to the San Francisco office of Goss Company, Div. Miehle-Goss-Dexter, Inc.,

ROBBINS

STRONG

has been reported by C. S. Reilly, vice president-sales. Jesse M. Strong has been named sales engineer to cover the states of New York and Connecticut. He will work from the New York, N. Y. office.

Atlanta District Manager—Clifford J. Foley has been named manager of the Atlanta, Ga. district for the Macey Company, Sub. Harris-Intertype Corp. The district covers seven states in the Southeast. Foley will be responsible for setting up a new sales and service organization.

Milwaukee Branch Manager—Edgar Causey has been appointed sales branch manager for the Milwaukee, Wis. office of Ozalid Division, General Aniline and Film Corp., according to James A. Travis, general sales manager.

CAUSEY

GATHMANN

Ink Firm Names Vice President—Rudolf H. Gathmann was recently named vice president of William Recht Co., Inc. He has been engaged in the printing ink and supply business in overseas areas for over 31 years.

Gene C. Meston is now general manager of the Advance Electrotype and Stereotype Co., Indianapolis, Ind. He was formerly vice president and general manager of the Capital City Printing Plate Co., Des Moines, Ia.

Club Installs Norval Dean—Vice Pres. Mfg. Norval Dean, Egry Register Co., Dayton, O., has been installed as president of the Dayton Club of Printing House Craftsmen. He will become President of the Fifth District conference to be held at Hotel Miami in Dayton May 22-23, 1959. Installation of Dean and other club officers was made by Pearl Oldt, International secretary. Norval Dean is a member of the Egry Twenty-Five

(*Continued on Page* 14)

Quality control and critical errors . . .

are closely interrelated. For example, the difference between the finest reproduction work and mediocre work is only a razor's edge of technique.

That's why so many graphic arts people use Ansco Reprolith emulsions in *all* their work. Ansco Reprolith Film and Ansco Reprolith Thin Base both represent the ultimate in dependability and uniformity.

Ansco's Reprodol Developer, designed specifically for the most critical techniques is formulated especially for use with Ansco graphic arts sensitized materials.

Add Ansco Acid Fixer to this superb twosome for the finest combination available in the graphic arts world. Truly a combination that eliminates critical errors.

Ansco, Binghamton, N. Y A Division of General Aniline and Film Corporation.

Ansco

Reprolith

For More Information Circle 15 on Reader Service Card

The ANDERSON COLOR-SEP Unit

The First and Only Complete Package of Fine Equipment designed primarily for making 3 and 4-color halftone separation negatives from color transparencies, 35 m.m. to 5"x 7" inc.

This unit also accommodates continuous tone separation negatives in that size range. Enlarges images up to diagonal measurement of 21"; or one-third size reductions. The unit also includes all equipment needed and offers controls of variable factors as well as accurate measuring instruments. Adaptable to any technique or procedure, the unit utilizes mechanical (pin) registration of transparency with color correction masks and can be used with any system of pin registration of separation negatives. This array of fine, superior quality equipment goes far to enable a plant to standardize the operations and speed up production of consistently fine results.

GRAPHIC ARTS EQUIPMENT

DEVELOPED AND MANUFACTURED BY

PAUL ANDERSON MANUFACTURING CO.

P. O. BOX 6705, SAN ANTONIO 9, TEXAS, U. S. A.

Please Credit Publisher when making inquiries.

REPEAT PRINTER MODEL B

STEP & REPEAT MACHINE UNITS

Low investment, long life and guaranteed accuracy are only a few of the many fine characteristics of Anderson STEP AND REPEAT MACHINE UNITS. Equipped with wear "compensation mechanisms" these machines will give perfectly straight line steps, year after year, and with a reasonable amount of care, require little or no maintenance cost. Possessing the ability to step on film or direct to the plate, interchangably, all five regular size models have accuracy to trim line or die-cutting dimensions and will give PERFECT image or color register. A thirty day trial with no obligation to buy will prove these machines are as fine as the finest at a fraction of the cost.

ANDERSON STEP AND REPEAT PRINTERS

MODEL	MAXIMUM PLATE AREA	CONTACT AREA (Image)	FLOOR SPACE
D	20½x25	18½x25	34x44
B Std.	27¼x42	23x41	41x62
B Spl.	30¼x42	26x41	41x62
XB4	40¾x57½	37¼x52½	55x74
XT	48x71½	44x62	65x90
XX	*50x109	48x100	65x130
LP	**20x52	18x46	36x66½

NOTE: Maximum plate area shown does not indicate plate size, but useable area for the Model. Any size plate falling within this area can be used.

*Model XX built to order ONLY, is designed to step on film ONLY. It is especially adaptable to Textile Printing Industry using the gravure method, and other similar gravure processes.

**LP (Long Printer) Model is also built on special order ONLY. Designed as an accessory to the Model XB4 and Model XT unit, steps only on film. Used as an accessory this LP model greatly facilitates working conditions, especially in plants where darkroom space is limited. NOTE: The Model D is also being used in many plants as an accessory to the larger models.

NOTE: In addition to accurate color register repeating models D - B - XB4 are capable of doing perfect electric circuit repeating—giving exact register two sides.

PLASTI-VAC VACUUM FRAME

Perfect, contour-molded, vacuum contact is had on the Anderson PLASTI-VAC vacuum frames. The utilization of tough and very durable MYLAR plastic yields a non-embossing, almost instantaneous vacuum contact that is ideal for burning all types of plates including the thin, smooth surfaced, presensitized plates; or, it can be used as a darkroom film contact frame. Two regular sizes available to 42"x 52" vacuum area. A special glass against plastic model is available for two burns at one time.

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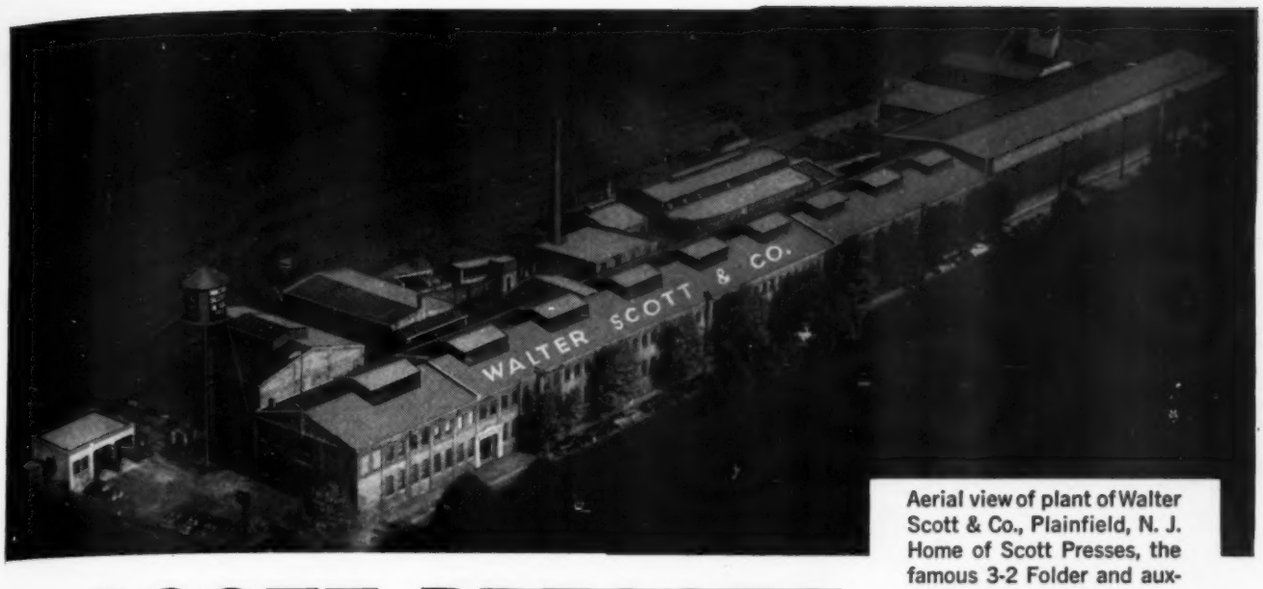


Aerial view of plant of Walter Scott & Co., Plainfield, N. J. Home of Scott Presses, the famous 3-2 Folder and auxiliary Press equipment.

SCOTT PRESSES APPROVED

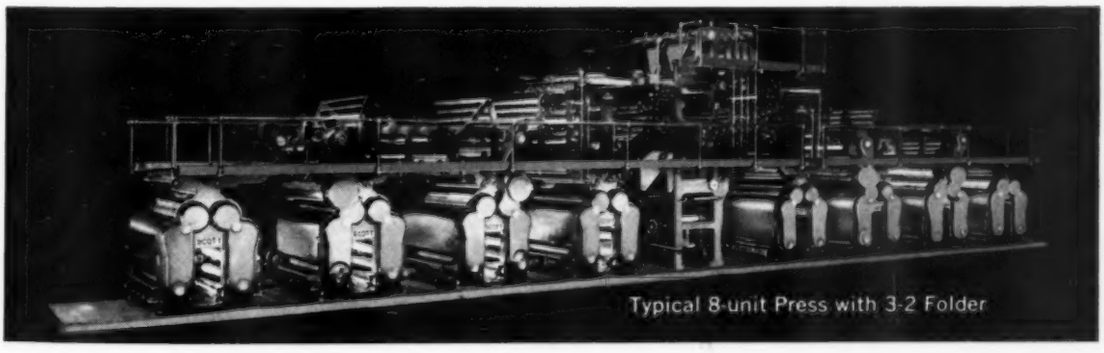
by the great names in the newspaper industry

OVER THE YEARS . . . 83 to be exact . . . SCOTT presses have established a reputation for dependability and economical operation. Their list of users includes many of the most famous newspaper plants in the world. The mechanical and engineering skill that has gone into their making is the result of many years' experience and an intimate knowledge of what the newspaper industry wanted and obtained.

The SCOTT touch of talent in manufacture and design saves money for all of the newspapers, large and small, that have been printed on SCOTT presses. Dependability is their big feature . . . maintenance is notably low . . . press failure just don't occur.

Today . . . SCOTT presses embody full provision for ROP color and can be custom built in any number of units. The famous 3-2 folder is an integral (or optional) part of any press arrangement.

If you contemplate pressroom changes . . . either all new presses or modernization of your present plant . . . let SCOTT engineers help you decide on the best press arrangement.


Typical 8-unit Press with 3-2 Folder

WALTER SCOTT & CO.

DIVISION OF **WOOD NEWSPAPER MACHINERY CORPORATION** Plant: Plainfield, N. J.

EXECUTIVE & SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, N. Y.

BUILDERS OF PRESSROOM AND REELROOM MACHINERY AND EQUIPMENT SINCE 1875

SCOTT presses

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News Items

(Continued from Page 10)

Year club. Howard Massman, well known printing teacher, has been appointed general chairman of the Dayton conference meeting.

Oxford Paper Promotes—Joseph R. Carney has been appointed staff production manager of Oxford Paper Co.'s New York (N. Y.) offices. He started with the company in 1946. Thomas E. Irwin has joined the firm's sales service department and will work from the Chicago office.

Winkler Receives Citation—J. Homer Winkler, technical adviser, Battelle Memorial Institute, has been honored with the highest citation of Epsilon Pi Tau, international honorary fraternity for industrial arts and vocational education. At a recent meeting at the Ohio State University, Columbus, O., the fraternity cited Winkler for his contributions to the technological advancement of printing and allied industries.

WINKLER

Polychrome Names Two Executives—Gregory Halpern, president, Polychrome Corporation has announced the appointment of James E. Epperson as vice president in charge of sales, and Bernard R. Gold as vice president. Epperson was formerly sales manager and Gold was controller for the firm.

Linotype Representative—H. Gardner Pate, production engineer with the Atlanta, Ga. agency of Mergenthaler Linotype Co., has been named to represent the firm in North Carolina and the upper half of South Carolina.

PATE

KING

Joins Paper Converting—Charles A. King has joined Paper Converting Machine Co. as a sales engineer, it was announced by R. E. Small, vice president for sales.

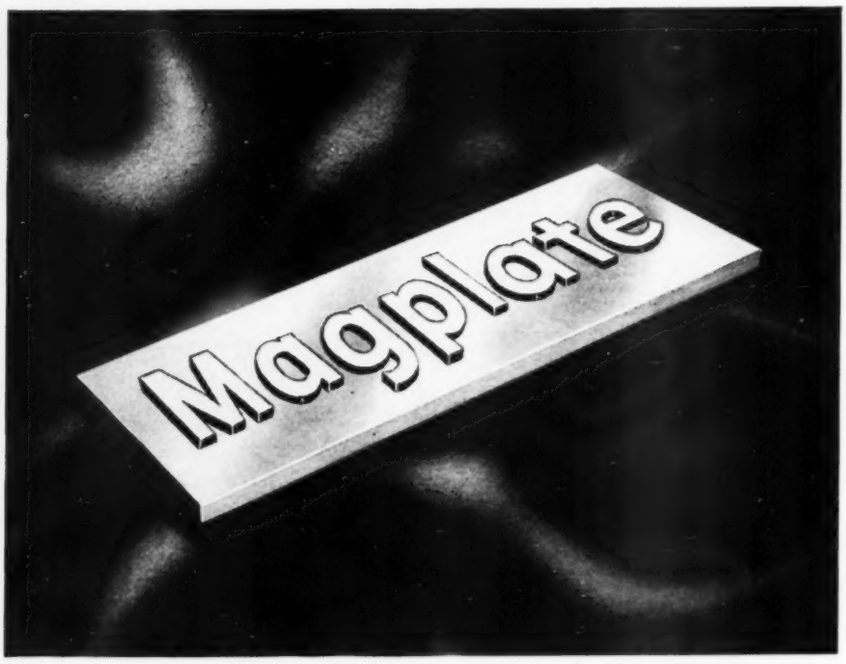
Business Forms Company Appoints—Olin B. Sparks has been named district sales manager of the Atlanta, Ga. office of Cullom & Ghertner Co., business forms printers, it was reported by E. B. Hundley, vice president in charge of sales. Sparks succeeds S. Cecil Appleby, who was recently named assistant general sales manager in charge of the firm's newly organized Southern district.

ATF Appoints Two—Harold E. Meyer has been named chief engineer of forms presses for American Type Founders Co. He has been associated with the firm since 1940. Also announced was the appointment of Robert E. Thalin as ATF Typesetter product manager for the Midwestern states area, according to John T. Porter, sales manager, sheet fed division. He will operate from the Chicago branch.

MEYER

THALIN

Heads Fairchild Overseas Operation—Appointment of Chandler J. Abbott as manager of the overseas department, Fairchild Graphic Equipment, Inc., has been reported by J. A. V. Hyatt, vice president and general manager. Abbott will be responsible for the administration of the Emmen, Netherlands plant and for the



In this new swing to Magnesium—this new name has earned confidence

It's the metal that's accurate and uniform. Magplate is precision guaranteed to plus-or-minus .0005″ gauge tolerance. This guarantees uniformity not only within each plate but also from one plate to another.

—with easy machinability—Magplate etches fast, cleanly, consistently, with powderless machine or conventional method.

—and with a hard surface—An *extremely* hard surface permits the processing of more mats from a single Magplate engraving.

M-1

Write today for descriptive Magplate folder.

Magplate photoengraver's metal is made from ultra high-purity magnesium, which is alloyed, rolled, machined, and finished *complete* by:

MAGPLATE DIVISION
Brooks & Perkins, Inc.

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THE ONLY PRODUCER WITH AN INDEPENDENT SOURCE OF SUPPLY AND COMPLETE ALLOYING AND ROLLING FACILITIES.

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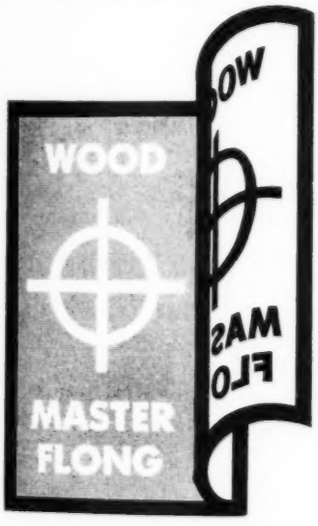
WOOD MASTER FLONGS* PROVIDE:



- **faster press starts — MINUTES after composing room lock-up.**
- **faster replates for more flexibility in handling late news.**
- **elimination of hand packing for a big gain in man-hours available for color routing, flat casting, improved maintenance of machines, etc.**

Wood Master Flongs* are *NOT* experimental mats. They are used by leading daily newspapers across the country. No major equipment changes are necessary and Master Flongs* can be used interchangeably with hand-packed mats.

*** NO-PACK**

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HOOSICK FALLS, NEW YORK

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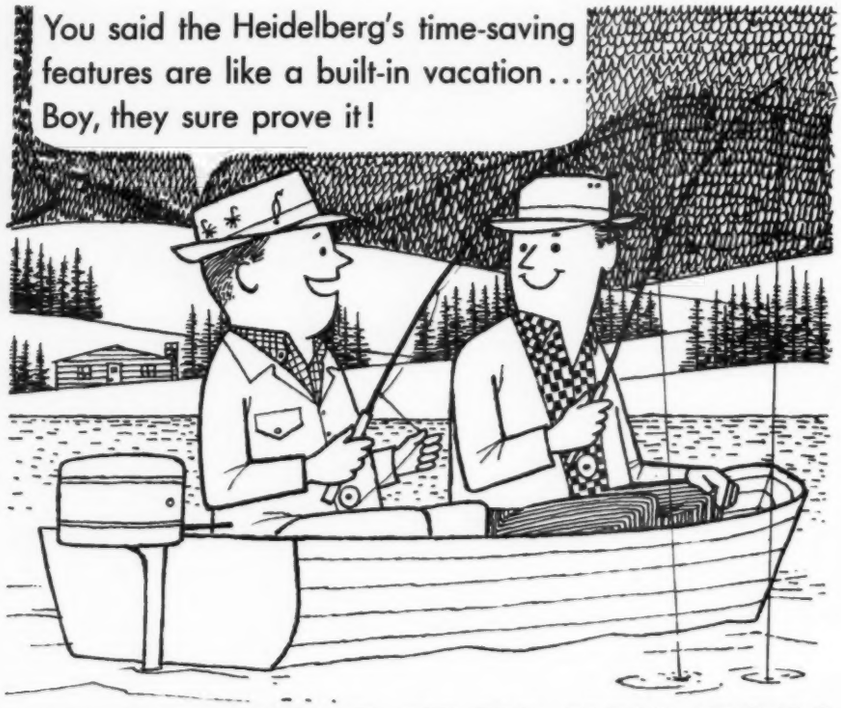
sale of Fairchild products all over the world except for the United States, Canada, Alaska, and Hawaii. Frank Nardozzi succeeds Abbot as New England district manager.

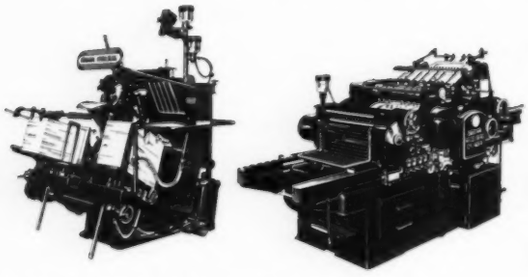
Brookfield Names Sales Agent—Brookfield Engineering Laboratories has announced appointment of Pneuma-Flo Systems, Inc. as sales agent for its Viscosel system. Morton Weiss will handle the sales, distribution and service of Brookfield's viscosity controlling equipment.

Alan Wood Steel Appointment—James F. McCrudden, jr. has been appointed district sales manager in charge of the New York, N. Y. office of Alan Wood Steel Co., according to Perry L. Francis, vice president in charge of marketing. McCrudden succeeds William E. Bossert who recently retired after 48 years service with the company.

Opens Pittsburgh Office—West Virginia Pulp and Paper Co. is opening a new sales office in Pittsburgh, Pa., reports David L. Luke, III, executive vice president. David Heagerty has been named manager of the office, which is located at 436 Seventh Ave. Also announced was the opening of a new Detroit office, located at 16115 Meyers Rd. It will be managed by James I. Phillips and will serve the Detroit and Toledo, O. markets.



LET US PROVE IT TO YOU, TOO!



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Glendale, L. I., N. Y.
Heidelberg Western Sales Co.
Los Angeles, Calif.
Heidelberg Southern Sales Co.
Houston, Texas

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Deeney Receives Two Awards—James J. Deeney, vice president and general manager, Bensing Bros. & Deeney, Sub. Sun Chemical Corp., was recently presented two awards by Philadelphia printing ink associations. One award, a citation for contributions toward progress of the industry, was presented to Deeney (left) by Theodore J. Finckh, Seaboard Printing Inks, Inc., president, Printing Ink Makers Assoc. of Philadelphia. The other award, a bronze medal, was for Deeney's efforts on behalf of the printing ink industry of Philadelphia and was presented by Morris Garrick, McCutcheon Bros. & Quality, Inc., president, Philadelphia Printing Ink Makers Production Club.

Williamson Sales Representative—Williamson & Company has named Warren Taylor as sales representative for the Southeastern states, according to Eugene Williamson, president. Taylor will also manage the company's new warehouse in Atlanta, Ga.

Celebrates Silver Anniversary — M. A. Spayd, president, Standard Register Co., was honored at ceremonies recently for his 25 years of service with the company. He has been president since 1944. Also celebrating 25 years with the company were 22 other Standard employees.

Appleton Acquires Doven Machine—Appleton Machine Co. recently announced the acquisition of Doven Machine and Engineering, Inc., manufacturers of Hot-Spot carbonizing equipment for the printing industry. The plant will be moved to Appleton, Wis., and operated under Eugene Doven, vice president, as the Doven Division of Appleton. Other products added by the purchase are specialty slitters and rewinders.

Challenge Employee Retires—Olaf T. Gylleck, who for the past 40 years has been active as both service and advertising manager for Challenge Machinery Co., retires this month. He started in the printing business in 1900.

Kansas City Machinists—A new service consisting of moving, erecting and repairs on letterpress and offset presses and die cutting equipment is now available in the Kansas City (Mo.) area. Known as Kansas City Printing Machinists, the company is located at 4439 Troost Ave.

Day in-Day out-

Over the years, printers large and small have found Everyday Packaged Inks the sensible, low-cost answer to the ink inventory problem. All popular colors, blacks, whites, bond and cover inks—the Everyday line includes *everything* you need for nine jobs out of ten . . . precision formulated and ground for beautiful press performance. In stock for immediate delivery from your nearest IPI branch!

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EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.

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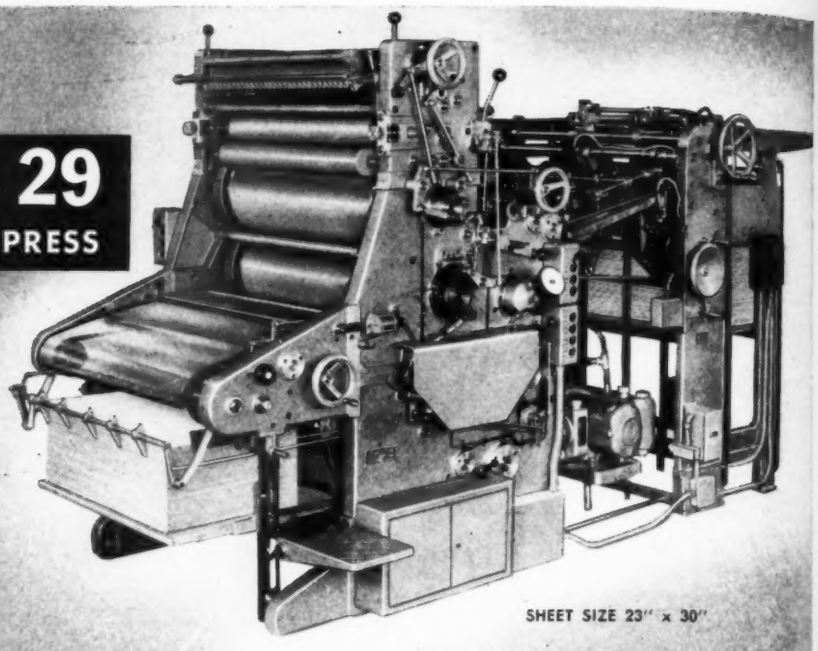
Royal Zenith 29

SINGLE COLOR OFFSET PRESS



SHEET SIZE 23" x 30"

SAVE · SAVE · SAVE · SAVE

Are you interested in SAVINGS? . . . on initial cost, on upkeep, on operation, on makeready? . . . Are you interested in a press that runs a BIG sheet at the cost of a small one and shows BIG PROFITS besides? . . .

Then look no further—you've found it . . . the Royal Zenith 29! Nothing on the market can compare with its top quality, precision register work—at speeds of 40,000 impressions per shift! You owe it to yourself—and your profit ledger—to investigate this money-maker for *your* shop!

Call or write Dept. **PE** *for full details and attractive terms on both models, and for name of distributor in your vicinity.*

Royal Zenith 23

SINGLE COLOR OFFSET PRESS

This is the 29's little brother—its twin in every way except size! Takes a 15" x 23" sheet at up to 9000 I.P.H. Ideal for the printer "going into offset," as well as for the plant that needs a speedy, economical, top quality small press!

Royal Zenith Corporation

WORLD'S FINEST LITHOGRAPHIC PRESSES

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SERVICE

Factory-trained mechanics available anywhere in U. S. or Canada for 24-hour service on parts and maintenance.

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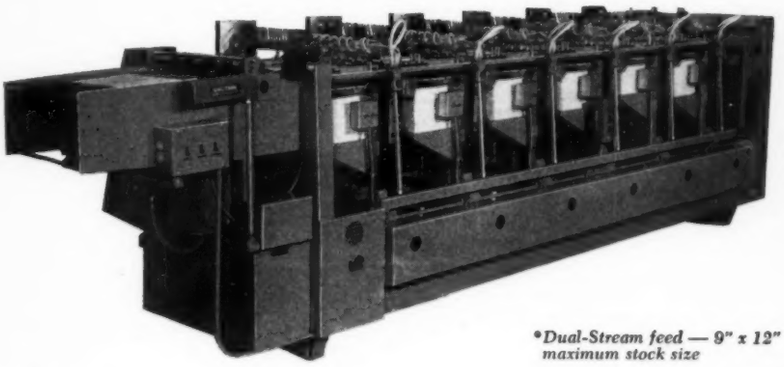
DOUBLE PRODUCTION with DUAL-STREAM COLLATING!

THE HIGH-SPEED DUAL STREAM Speed-Klect® COLLATOR

The world's newest . . . most versatile sheet collator!



*Dual-Stream feed — 9" x 12" maximum stock size

MODEL 61-11 *DUAL-STREAM* SPEED-KLECT COLLATOR**

This six-station ***DUAL-STREAM*** Speed-Klect gathers 12 sheets up to 9" x 12" in a single operation! Other models in 3- to 8-stations. Customized models for special gathering problems.

YES – hard as it is to believe – station for station, the new ***DUAL-STREAM*** Speed-Klect WILL OUT-PERFORM ANY COLLATOR IN THE WORLD*; even cuts automatic gathering costs *in half!*

With the fully automatic ***DUAL-STREAM*** Speed--Klect you can
...***DUAL-STREAM*** the same job side by side
...***DUAL-STREAM*** two *different* jobs
...***DUAL-STREAM*** a single job

No other collator can match the ***DUAL-STREAM*** *Speed-Klect for versatility!*

**Covered by U. S. Patent No. 2,568,224 and other patents pending.

Didde-Glaser, INC Emporia, Kansas

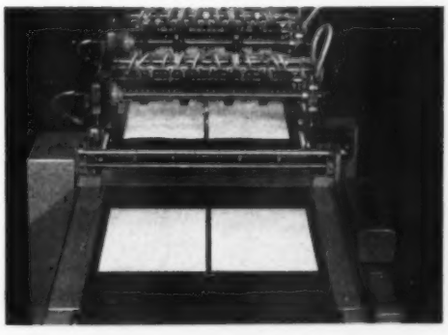
Designers & Manufacturers

- ✻ THE 6-STATION, **DUAL-STREAM** SPEED-KLECT SHOWN MAKES UP TO 60,000 PICKUPS PER HOUR!*
- ✻ TWO MICROMATIC DETECTORS AT EACH STATION INSURE UNEQUALLED ACCURACY!
- ✻ POSITIVE PICK-UP AND SHEET SEPARATION!
- ✻ GLUING AVAILABLE ON ALL SPEED-KLECT MODELS!
- ✻ FAST, EASY LOADING!
- ✻ IDEAL FOR NUMBERED WORK!
- ✻ EASY TO OPERATE!
- ✻ SINGLE STREAM COLLATING UP TO 18" x 12" SHEETS!

AVAILABLE WITH

- CRISS-CROSS SET RECEIVER!
- INTERLEAVING DELIVERY!
- STITCHER!

*Dual-Stream feed – 9" x 12" maximum stock size



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NATIONAL BUSINESS SHOW
New York — October 20-24
Booth 213CDE

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Dallas — October 13-16
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General Office
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Sales and Service Offices in New York, Chicago, Los Angeles, and Atlanta

AVAILABLE FOR EXPORT —
Write — Didde-Glaser, Inc.,
"Export Division," Emporia, Kansas

CLIP for information on this and other Speed-Klect models PEE-10

☐ Please send Brochure and full information.
☐ Please send the 11-minute, 16 MM, color, sound film "Speed-Klect in Action."

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MASTER

POWDERLESS ETCHER

MODEL M-32

MAXIMUM PLATE SIZE 20" x 24"

A FEW OF THE OUTSTANDING FEATURES ARE . . .

★ **TWO COMPLETE PADDLE ASSEMBLIES** for uniform quality

★ **AUTOMATIC CONTROLS**

★ **SMALLER BATH VOLUME** 20 gallons

This machine is intended where production is not large enough to warrant one of our larger bath volume machines, or where it would be advantageous to operate a number of small bath volume machines.

For complete information write Master Sales & Service Corp., Wyncote, Pa.

PRICE $4500
INCLUDING CRATING

ALSO DOW-MASTER POWDERLESS ETCHERS

DM-24 MAXIMUM PLATE SIZE 15" x 18"

DM-35 MAXIMUM PLATE SIZE 22" x 28"

DM-48 MAXIMUM PLATE SIZE 24" x 40"

MASTER SALES & SERVICE CORP. WYNCOTE, PA.

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Here's what nobody handles business forms with!

Kid gloves! **Forms take an awful beating and they're expected to come up smiling when information is needed. That's just another case for the careful selection of paper.**

The choice these days is MAXWELL BOND. For good reason, too. It's a good bond at a utility bond price. That cuts down on costs without cutting confidence in quality. You'll prove that when you see how it prints, writes, types and erases! And you'll be completely sold when you see how it stands the rough handling of business routine! MAXWELL BOND.

We'd be pleased to show you samples of MAXWELL BOND'S *six colors, four weights and six finishes. Just send your letterhead.*

Maxwell Bond

America's Favorite Low Cost Bond

HOWARD PAPER MILLS, INC. • MAXWELL PAPER COMPANY DIVISION • FRANKLIN, OHIO

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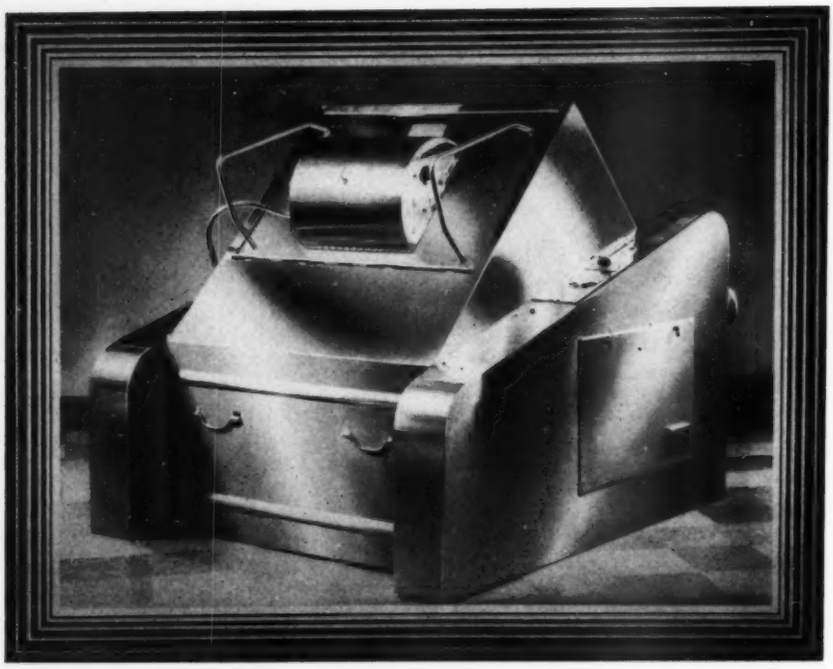

The Tasopé Royal Mark II Powderless Etching Machine

In less than one year the Mark II has achieved international as well as national recognition. In a recent 30 day period 7 Mark II machines were shipped to England, Sweden, Norway, Canada and South America, in addition to those shipped to photo-engravers and newspapers in the United States.

Here are four reasons for this unparalleled acceptance of a new graphic arts machine.

- The Mark II is the world's first powderless etching machine specifically designed for zinc.
- Ruggedly constructed of heavy gauge stainless steel, the Mark II does not have any painted or enameled skirting or framing to peel, rust or corrode.
- Automatic refrigeration supplied by a 1¾ H. P., unit plus other exclusive Mark II features extend bath life and cut operating costs.
- Exclusive angle plate rotation produces beautiful pyramidal side walls with a minimum of porosity.

Send For The New Mark II Folder

Read about the many exclusive features that make the Mark II the most talked about zinc etching development of the century. Write for your free copy today.

Tasopé

TASOPÉ BLDG., AURORA, MO.

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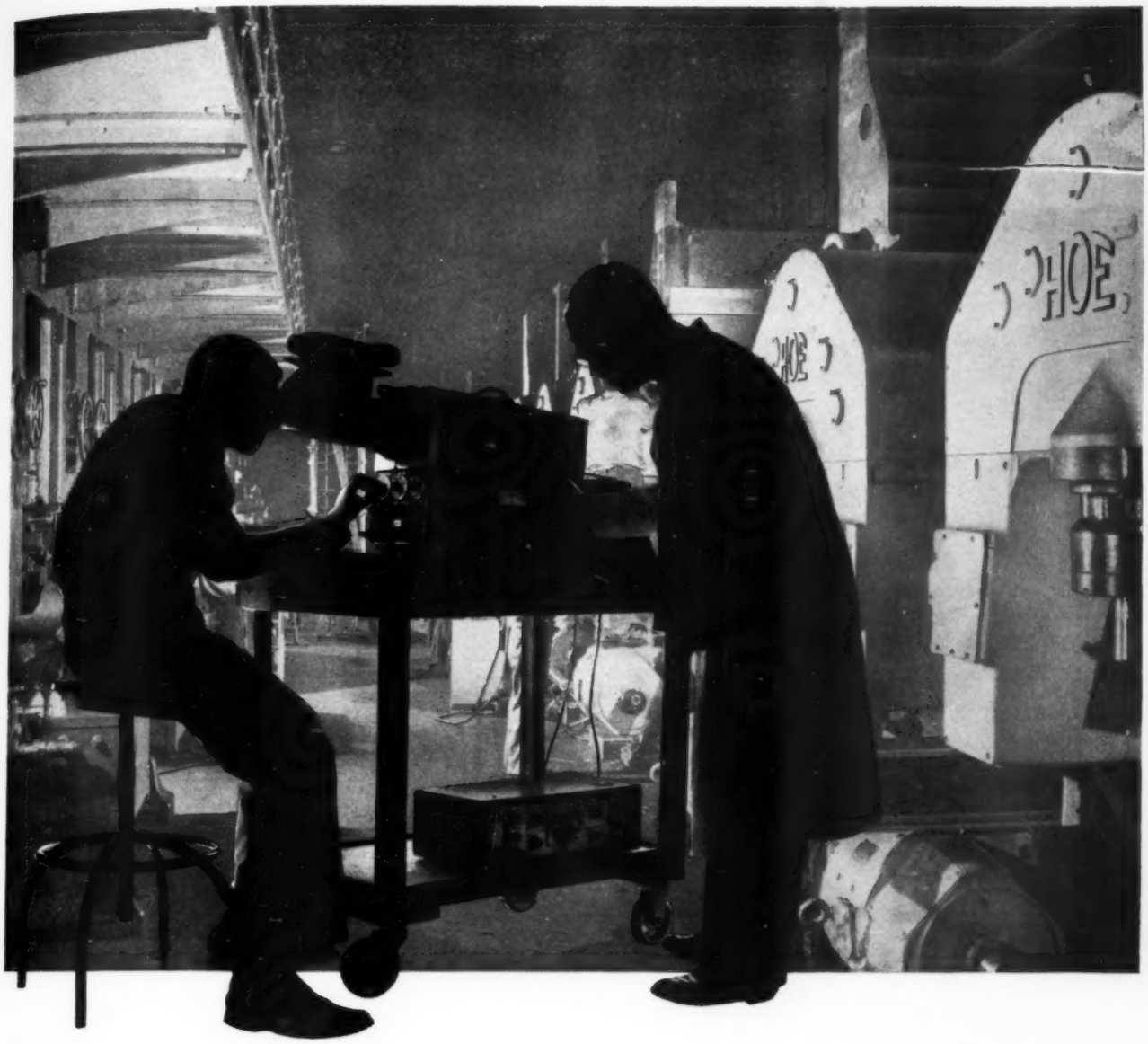

The plus of a Hoe press:

CONTINUOUS LEADERSHIP IN RESEARCH AND ENGINEERING

Hoe engineers design the world's finest presses, but they are *still* not satisfied. They use advanced electronic techniques and apply them to improving pressroom accuracies and economies. With electronic eyes they see what is happening deep within the speeding metal parts of presses . . . determine limits of endurance . . . probe for better performance.

Here two Hoe engineers are using an oscilloscope integrating related press data . . . and picturing it for on-the-spot evaluation. They work in Hoe's modern laboratory where printing phenomena are continuously investigated.

Imaginative research and engineering is typical of Hoe. For you it means an extra measure of value when you use Hoe equipment. Because Hoe engineers recognize no printing frontiers *. . . it will pay you to get in touch with Hoe.*

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MEETINGS for the PRINTING INDUSTRY

American Photoengravers Assoc.—1958 Conv., Hotel Netherland Hilton, Cincinnati, O., Oct. 13-15. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf.—1959 Conf., Hotel Morrison, Chicago, June 21-25. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 750 Third Ave., New York 17, N. Y.

Book Manufacturers' Institute—1958 Conv., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 8-11. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. Gen. Mgr. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf.—1959 Conf., Hotel Miami, Dayton, O., May 22-23. Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—Managing Director, William H. Gary, Printing Industry of Twin Cities, Inc., 2645 University Ave., St. Paul 14, Minn.

Gravure Technical Assoc.—1959 Conv., Drake Hotel, Chicago, Mar. 6-8. Exec. Secy. Edward S. St. John, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1959 Conf., Hotel Statler, Detroit, Jan. 18-20. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press*.

Illinois Newspaper Mechanical Conf.—Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News*.

Intl. Assoc. Electrotypers & Stereotypers—1959 Conf., Hotel Biltmore, New York, N. Y. Sept. 7-10. Exec. Secy. Floyd C. Larson, 758 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1959 Conv., Hotel Statler, New York, N. Y., Sept. 5-9. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—1959 Conf., University of Colorado, Boulder, Colo., Aug. 2-7. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—1959 Conv., Hotel Statler, New York, N. Y., Aug. 28-Sept. 1. Secy. Charles S. Tompkins, Tompkins Printing Equipment Co., 1040 W. Grand Blvd., Detroit 8, Mich.

Intl. Typographic Composition Assoc.—1958 Conv., Ambassador Hotel, Los Angeles, Calif., Oct. 14-17. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf.—Kansas Gen. Mgr., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy-Treas. William A. Bray, Missouri Press Assoc., 115 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1959 Conv., Hotel Greenbrier, White Sulphur Springs, W. Va., Apr. 13-16. Exec. Dir. Oscar Whitehouse, 1025 Connecticut Ave., N.W., Washington 6, D. C.

Mid-Atlantic Newspaper Mechanical Conf.—1959 Conf., Shelburne Hotel, Atlantic City, N. J., Mar. 12-14. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—1959 Conv., Twin Cities (Minneapolis-St. Paul, Minn.), June 11-13. Exec. Secy. Fred A. Schulz, Buckbee Mears Co., Toni Building, St. Paul 1, Minn.

National Assoc. of Photo-Lithographers—1959 Conv., Hotel Muehlebach, Kansas City, Mo., Nov. 18-21. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1959 Meeting, Waldorf Astoria Hotel, New York, N. Y., Apr. 1-3. Secy. J. H. Londergan,

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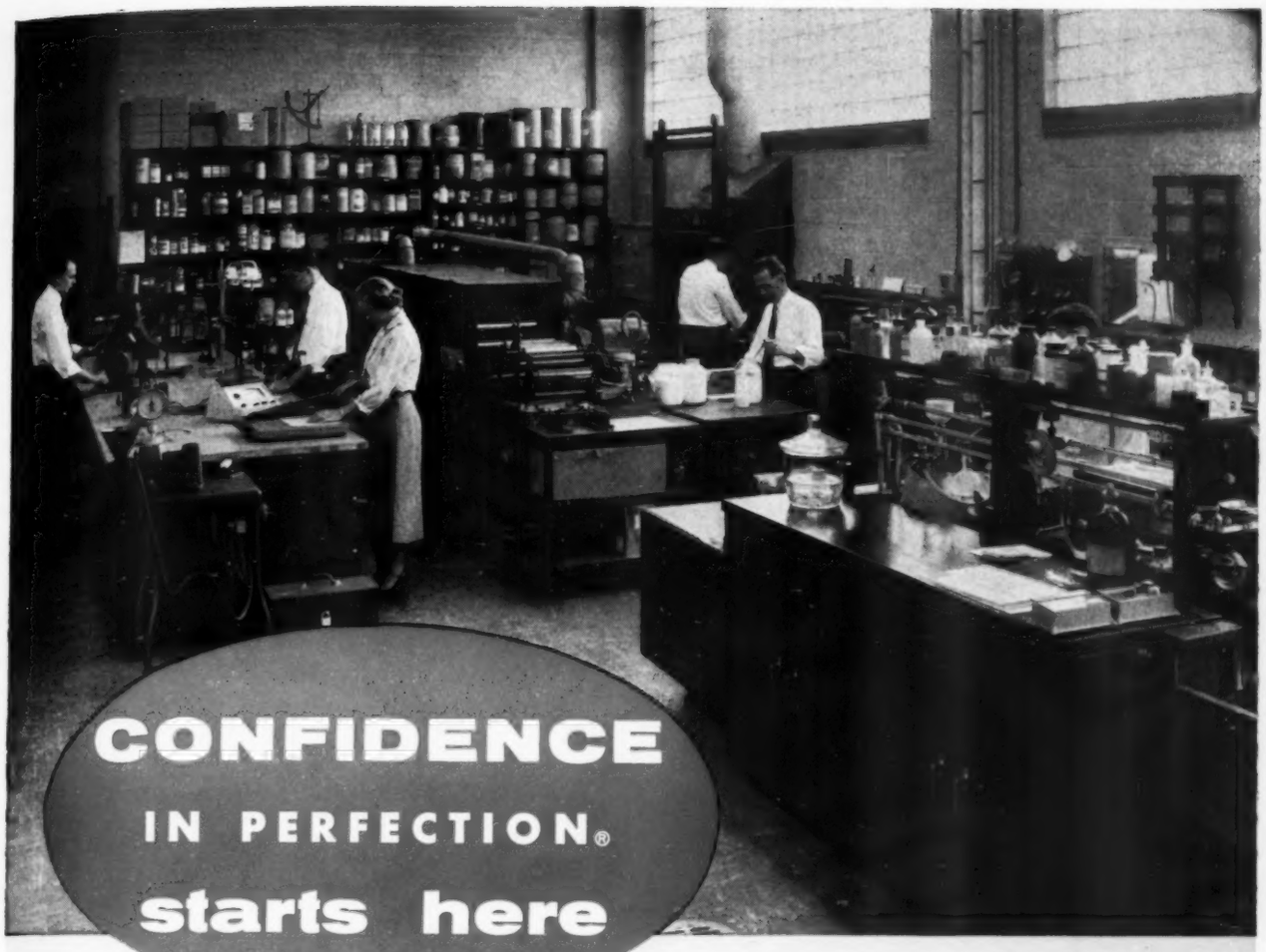

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220 E. 42nd St., New York 17, N. Y.

National Printing Equipment Assoc., Inc.—1958 Meeting, Statler Hotel, Dallas, Tex., Oct. 13-16. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Section—1959 Meeting, Hotel Conrad Hilton, Chicago, Oct. 20-24. Staff Rep. Harry C. Johnson, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — Secy. Lewis R. Greene, Westerly (R. I.) *Sun.*

New England Newspaper Mechanical Conf.—1958 Conf., Statler Hotel, Boston, Oct. 18-19. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

Newspaper ROP Color Conf.—Secy. Arthur Brashears, American Assoc. of Newspaper Representatives, 141 E. 44th St., New York, N. Y.

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union.*

Northwest Mechanical Conf.—Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1959 Conf., Hotel U. S. Grant, San Diego, Calif. Sept. 18-20. Secy. Fred Moyer, Sr., 6630 Mayflower Ave., Bell, Calif.

Packaging Institute Assoc.—1958 Meeting, Edgewater Beach Hotel, Chicago, Oct. 13-15. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1958 Conv., Statler Hotel, Dallas, Tex., Oct. 13-16. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D.C.

Research and Engineering Council—1959 Conf., Sheraton McAlpin Hotel, New York, N. Y., May 18-20. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave. N.W., Washington 15, D.C.

Screen Process Printing Assoc., Intl.—1959 Conv., Hotel Statler, New York, N. Y., Oct. 31-Nov. 2. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1959 Conf., Hotel Dinkler-Plaza, Atlanta, Ga., Aug. 9-11. Secy. John E. Johnson, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conf.—1959 Conf. Hotel Texas, Fort Worth, Tex., Mar. 8-10. Secy. Claude V. Capers, P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc. — 1959 Conv., Hotel Robert Meyer, Jacksonville, Fla., Apr. 27-29. Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Technical Assoc. of the Graphic Arts—1959 Conv., Hotel Mangor, Rochester, N. Y., June 14-16. Secy.-Treas. B. L. Sites, 421 Sunnyside Ave., Elmhurst, Ill.

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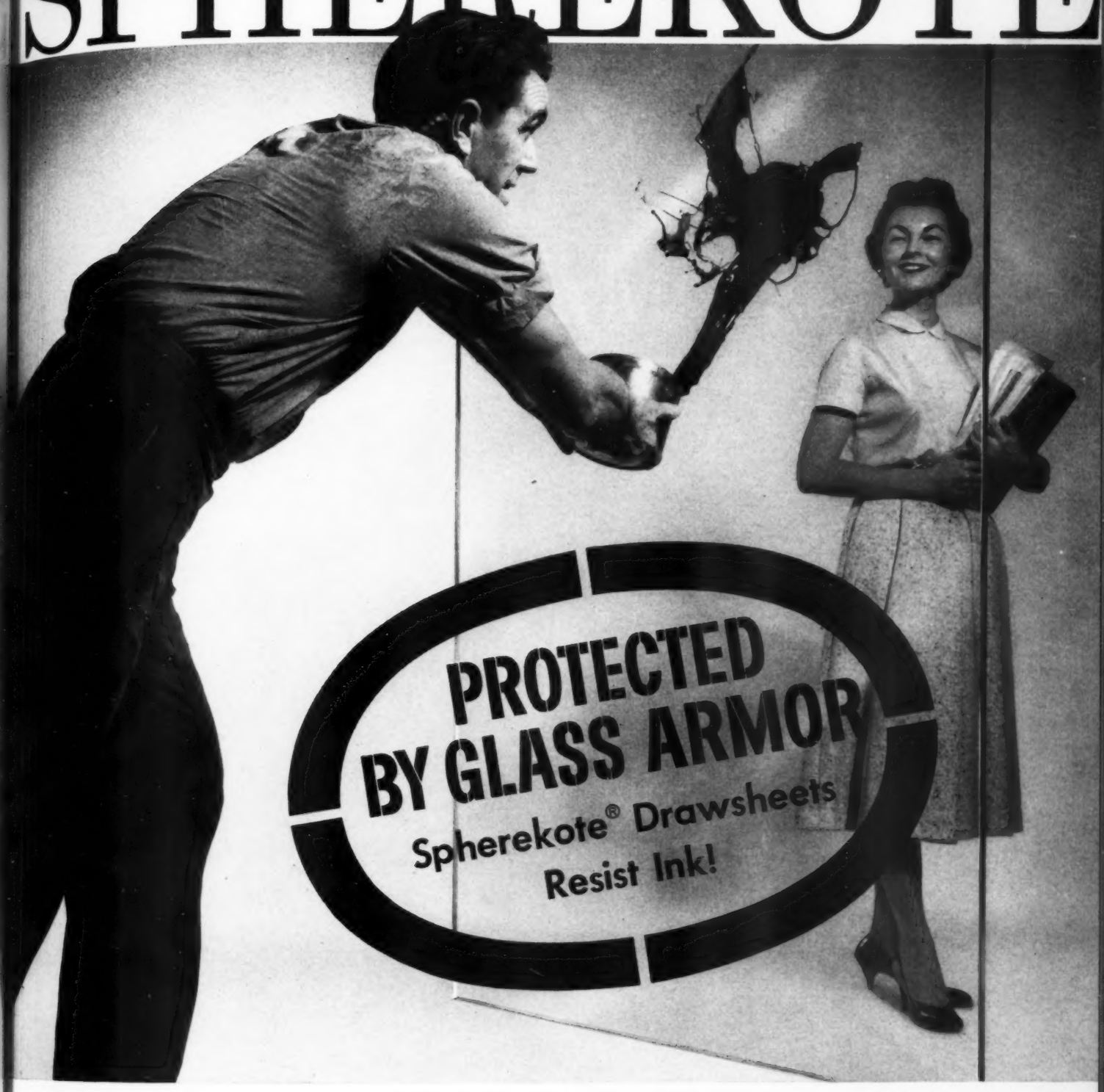

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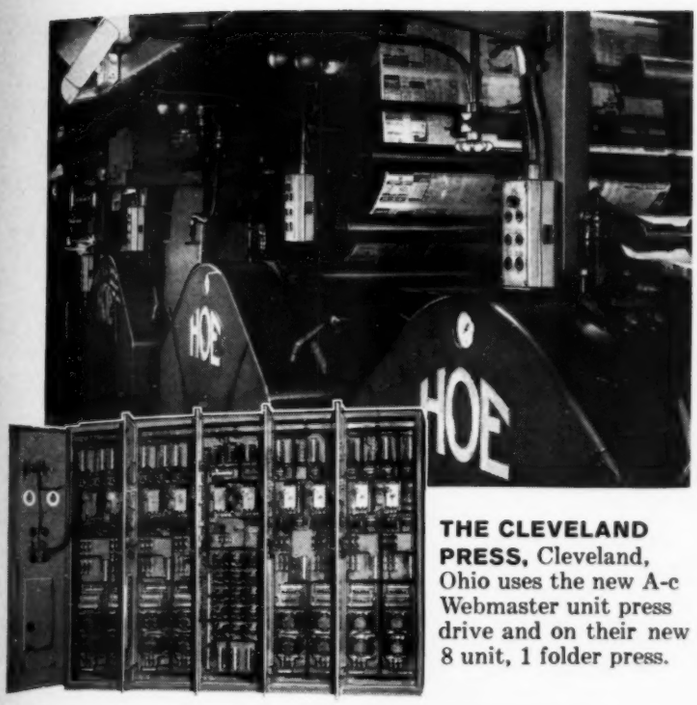
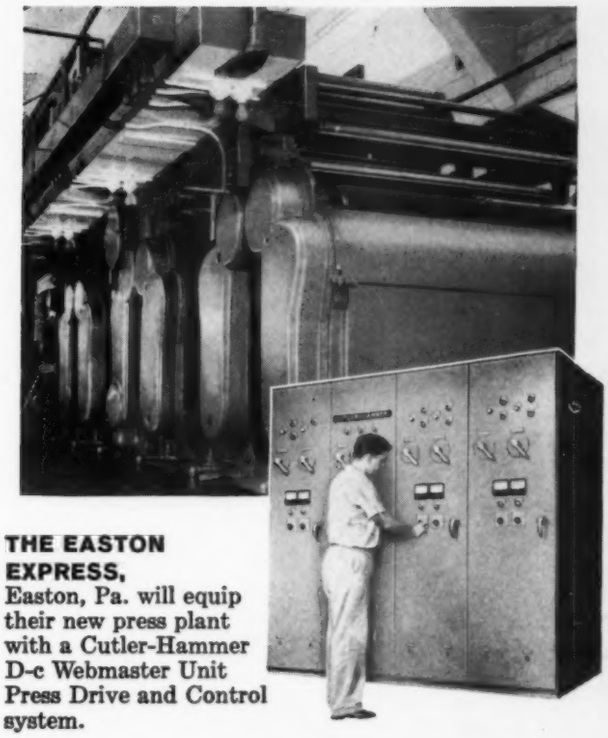


THE CLEVELAND PRESS, Cleveland, Ohio uses the new A-c Webmaster unit press drive and on their new 8 unit, 1 folder press.



THE EASTON EXPRESS, Easton, Pa. will equip their new press plant with a Cutler-Hammer D-c Webmaster Unit Press Drive and Control system.

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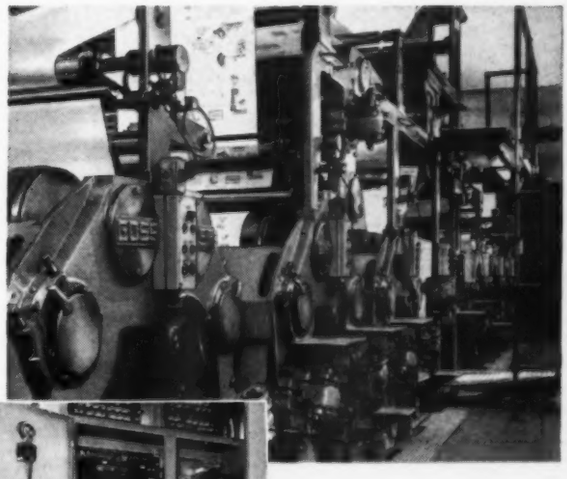
THE LUDINGTON DAILY NEWS, Ludington, Mich. uses a Cutler-Hammer A-c 2-motor Group Drive and Control on their press.



THE BELOIT DAILY NEWS, Beloit, Wis. selected 2 single motor D-c Group Drives for their new 6 unit, 1 folder press installation.

CUTLER-HAMMER CONTROL C-H

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Cutler-Hammer Inc., Milwaukee, Wis. *Division:* **Airborne Instruments Laboratory.** *Foreign:* **Cutler-Hammer International, C. A.**

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For More Information Circle 47 on Reader Service Card

"We ended halftone quality problems by printing direct with

SCAN-A-GRAVER PLATES"

Says C. Killingsworth, Mechanical Superintendent
Dodge City (Kansas) Daily Globe

Speaking directly from the back-shop of the Dodge City Daily Globe, here's how Claud Killingsworth sums up his experience with direct printing with Fairchild Scan-A-Graver Plates:

"Our Scan-A-Graver has been turning out consistently high quality halftones since we installed it back in 1949. And just about as important, we get them on time. We've come to rely on our Scan-A-Graver so much that we no longer need to worry about halftone quality or production. We just put the pictures on the machine, and a few minutes later we're ready to go to press."

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Let us show you how direct printing with Scan-A-Graver plates will give superior halftone reproduction in your newspaper and speed up the handling of last-minute news pictures.

Also ask for information about the Fairchild Scan-A-Sizer, the electronic engraving machine that automatically enlarges or reduces up to 4 times directly from original copy.

For details write today to Dept. 71E, Fairchild Graphic Equipment, Fairchild Drive, Plainview, L. I., N. Y.

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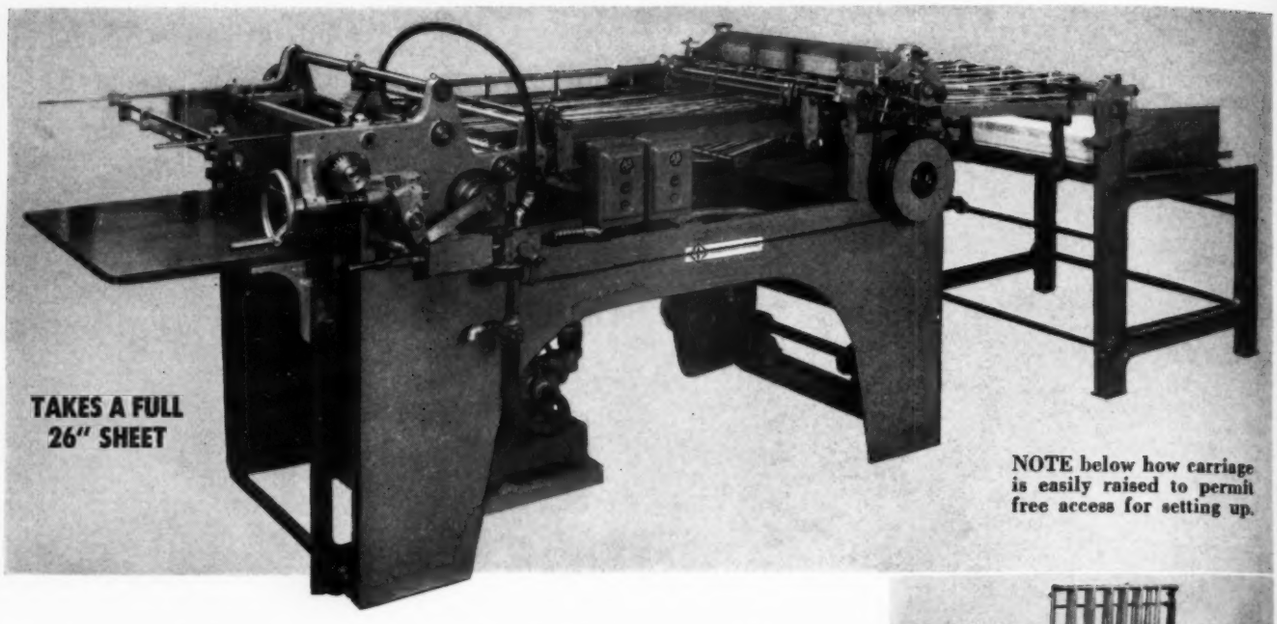
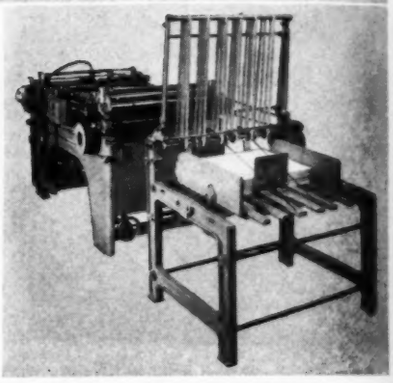
New 26" COMBINATION FEEDER PERFORATOR JOGGER



It's ALL IN ONE ...and ALL N-D



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Micro-exact in every respect. Flexible, easily set up. Positive in performance and produced automatically at speeds up to 4,800 per hour!

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This is a simple machine. You won't need a mechanic to set it up nor a skilled operator to run it. Anyone in your shop can do it easily.

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Look at the photograph again. Note the close-coupled compactness of this unit. Measures only 10' long x 3½'. Takes only small floor space to produce big returns.

FOR HIGH SPEED QUALITY PRODUCTION

SOLIDLY BUILT FOR HEAVY-DUTY LONG LIFE PERFORMANCE

Here's the new 26" high speed, big production marvel among perforators . . . a 3-in-1 all in line unit that offers you a measure of low cost performing efficiency never before available in equipment of this capacity. You simply set your stock on the feeder, touch the "start" button, and zip! . . . there's goes your Feeding, your Perforating, your Jogging . . . sailing thru AUTOMATICALLY (no more handling, no guiding, no watching) at 8,000 per hour! And you'll get up to 4,800 an hour on the highest precision strike-in work you ever saw. Yes, Sir! Here's the big labor saving, big production, big cost cutting unit you've been needing. Look into it now. Check its many features, its simplicity, its efficiency, its great profit potential. Write us for facts and figures today.

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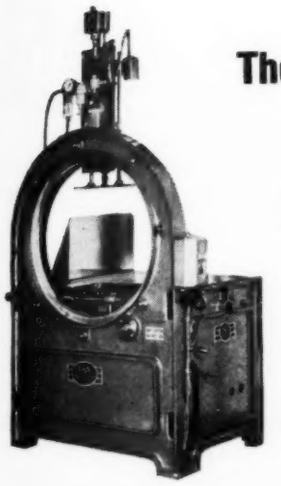

The State Journal

reports lower costs, improved efficiency with USS Gerrard Automatic Strapping Machine

Only two men, using one USS Gerrard Model 12 Automatic Strapping Machine, are needed by *The State Journal*, Lansing, Michigan, to tie 850 to 1,000 newspaper bundles a day.

The State Journal selected the USS Gerrard Model 12 after a careful check of the various other machines on the market, and has found it to be efficient, dependable and economical. Because the Model 12 uses a compressor to press out the air between the papers before they are tied, it produces a tighter, easier-handling bundle. Because it has a one-shot built-in lubrication system, the Model 12 has given the men no maintenance problems whatsoever. And, because only one man is needed to operate the machine, the newspaper anticipates a reduction of *$6,500 in overtime payments* to employees during vacation periods.

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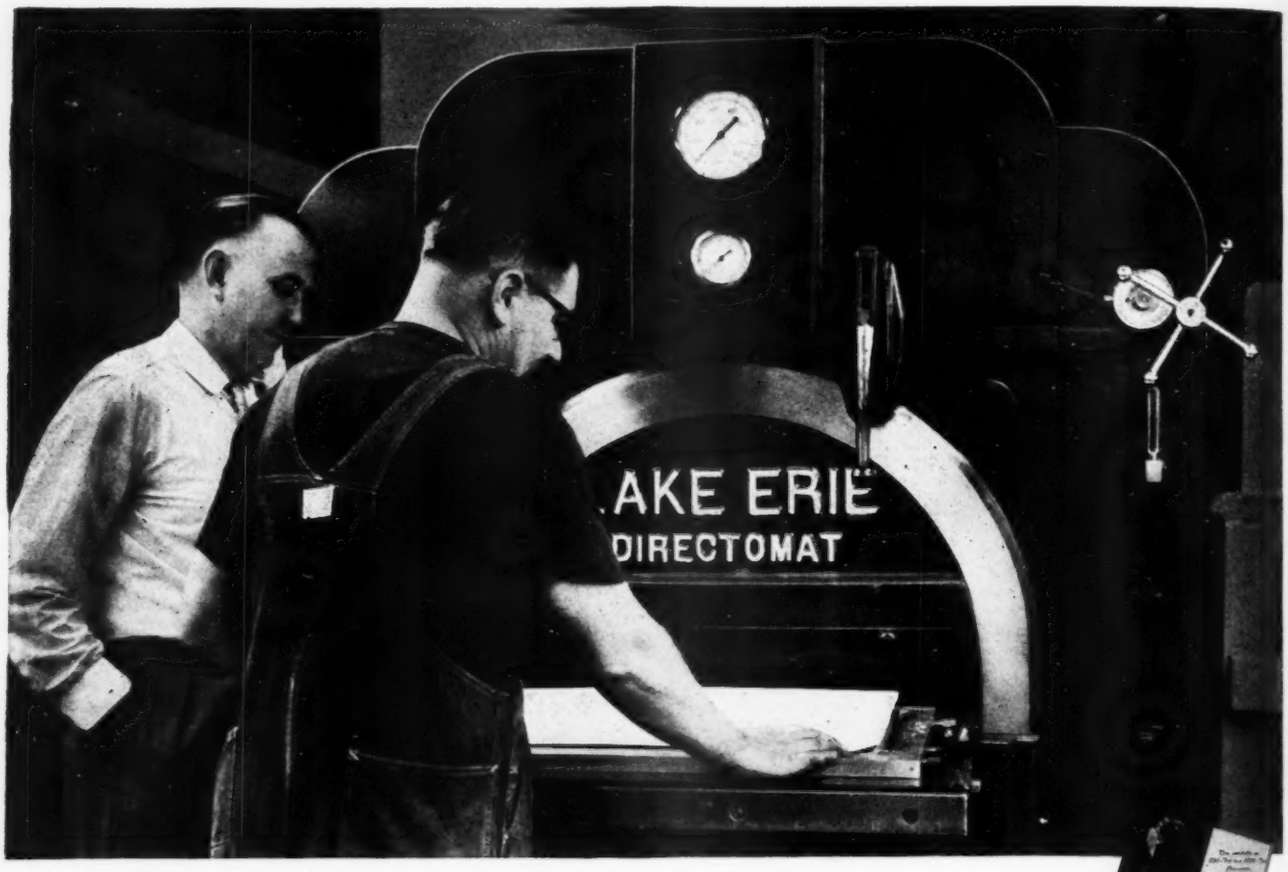
says M. T. PARKINSON of the LONDON FREE PRESS

"Just try doing without Directomat, as we were forced to do when we had a power failure," says Mr. Parkinson, "and it strikes home with a terrific bang the wonderful job this machine does for all printing, black and white as well as color. An outstanding feature with Directomat is the *uniform impression* you get, the key to good printing. We have used our Directomat for eleven years and when replacement is necessary we'll buy another," concludes Mr. Parkinson.



M. T. PARKINSON, Composing and Stereotype Superintendent looks on as Jack Ferguson, Stereotype Foreman prepares to mold a direct pressure mat. "Directomat helps us look our best for the 600,000 people with their $750 million buying income in London's seven-county market, located in the Southwestern part of Ontario, the greatest industrial province in Canada," points out Mr. Parkinson.

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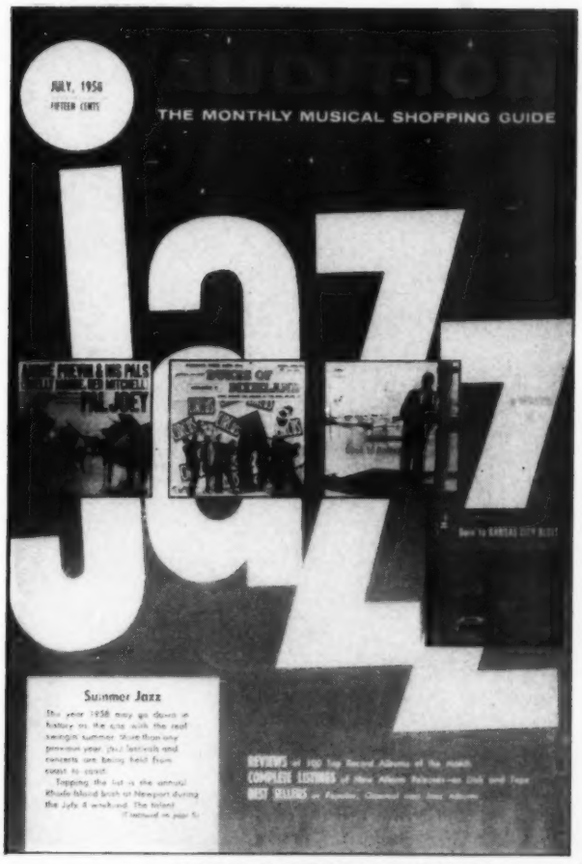

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HELPFUL LITERATURE

FOLDERS · Sales Aids · Instruction Sheets · BULLETINS · Catalogs · BOOKLETS · Brochures

Circle Numbers on Reader Service Card in This Issue

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please circle the numbers on the Reader Service Card in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. PRINTING PRODUCTION will forward your request.

Composing Room

HAMILTON DESIGN KIT

Hamilton Manufacturing Co. is making it possible for newspapers to design their own composing room tables through the use of illustrated cutouts. Design kit includes a choice of five table lengths, three working top styles, two type of overhead lights and 90 different material storage units. Hamilton will build any model designed from the kit. Circle No. 337 on Reader Service Card.

PROTYPE FOLDER

An interesting folder concerning Protype lettering is available from Mergenthaler Linotype Co. Used for ads, layouts, presentations, magazines, posters, and bulletins, Protype is offered in 10,000 type styles and sizes. Circle No. 340 on Reader Service Card.

ROUSE POWER MITERER

The Rouse power miterer, claimed to enable 800 miters in 45 min., is described in a catalog prepared by H. B. Rouse & Co. Information about Rouse's lead and rule cutters, composing sticks, type gauges, slug clippers, band saws and other equipment for the Graphic Arts is also included. Circle No. 331 on Reader Service Card.

STAR QUADDERS

An illustrated bulletin regarding the Star Selectro-Matic quadder is offered by Star Parts, Inc. Quadder is furnished with a short line device said to automatically interrupt the circuit between the quadder controls and quadding mechanism whenever a line is full enough to justify. Circle No. 329 on Reader Service Card.

FOTOTYPE BULLETIN

A bulletin descriptive of Fototype lettering for headlines, ads, announcements, booklets, displays, etc. is being offered by Fototype, Incorporated. Fototype is available in more than 300 type styles and sizes, in gothics, scripts, sans serif or serif faces. Circle No. 323 on Reader Service Card.

ATF CRAW CLARENDON BOOKLET

America's Top Designers Choose ATF Craw Clarendons is the title of a new 12 page booklet offered by American Type Founders Co., Inc. Specific design assignments in publication, advertising and promotional work, and examples how leading Graphic Arts designers carried them out with Craw Clarendon and Craw Clarendon Book type faces are given. Circle No. 318 on Reader Service Card.

AMSCO CHASE CATALOG

American Steel Chase Co. is offering a catalog in which is described its steel and aluminum chases for newspapers, commercial printers, stereotypers and electrotypers. Circle No. 341 on Reader Service Card.

HAMMOND GLIDER SAW

Trim-O-Saw Bulletin 958 descriptive of the Hammond G-100 Glider has been published by Hammond Machinery Builders, Inc. Features mentioned are an all purpose saw guard, chip and waste disposal, and a micrometer gauge. Circle No. 325 on Reader Service Card.

Platemaking

PULSED XENON ARC LIGHTS

Information is available from American Speedlight Corp. regarding the Ascorlux Pulsed Xenon arc lamp for the printing industry. A high intensity color balanced constant light source, lamp may be used for burning in lithographic plates, for color separation and copyboard work and for other applications. Circle No. 326 on Reader Service Card.

KEMP REMELT POTS

Kemp stereo and remelt pots with automatic metal loader are the subject of Bulletin 1E-9 offered by C. M. Kemp Mfg. Co. A feature of the remelt pots is Kemp's immersion heating principle, which is the application of heat from inside the pot. Circle No. 339 on Reader Service Card.

CONTROLLED LIGHTING EQUIPMENT

Natural Lighting Corp. has released a folder in which is discussed its ColorTran controlled lighting equipment for the Graphic Arts. Literature concerning the Turner step and repeat printer and Water Spotless film conditioning fluid is also offered by the company. Circle No. 327 on Reader Service Card.

OLYMPIAN CAMERA BULLETIN

The Olympian all purpose roll film camera is the subject of a four page bulletin prepared by Chemco Photoproducts Co., Inc. It is reported Olympian meets the requirements for precise color separations and high speed production of black and white negatives. Circle No. 314 on Reader Service Card.

ROBERTSON PLATEMAKING EQUIPMENT

A 16 page booklet, in which is illustrated the complete Robertson line of new platemaking equipment, has been issued by Robertson Photo-mechanix, Inc. Booklet PM-110, printed with a process color cover, is descriptive of vacuum printing frames, sinks, tables, film cabinets, etc. Circle No. 310 on Reader Service Card.

KODAK SUPPLEMENT DATA BOOK

A 16 page supplement to the *Kodak Graphic Arts Films and Plates Data Book* has been prepared by Eastman Kodak Co. Descriptions of physical and photographic properties of films introduced since the Data Book was published are given. Supplement may be obtained from Eastman Kodak Co., Sales Service Div., Rochester, N. Y.

Pressroom

VIRKOTYPE SAMPLES

Information and samples of raised printing are being offered by Virkotype Corporation. The Model G-30 automatic raised printing press and Virkotype compounds and inks are discussed. Circle No. 342 on Reader Service Card.

GRAPHIC ARTS INSPECTOR

True Color Pub. Co. has issued a specification sheet on its Model 5B Special Graphic Arts inspector for viewing printing press work and paper and its Dual Model 5B Special for viewing negatives, positives and transparencies. The Dual Model inspector is equipped with a transparency unit. Circle No. 322 on Reader Service Card.

WOOD NEWSPAPER EQUIPMENT

Illustrated literature has been prepared by Wood Newspaper Machinery Corp. to describe its equipment for newspaper plants. Data about Wood standard reels, pneumatically controlled tensions, belt driven Electrotab Autopasters and automatic operating devices is given. Circle No. 334 on Reader Service Card.

TIRFING LETTERPRESS

The new Tirfing letterpress is discussed in an illustrated bulletin released by Tirfing Printing Machinery, Inc. Press will print at rated speeds up to 4000 i.p.m. Maximum sheet size is 31 in. by 41 in. Circle No. 330 on Reader Service Card.

HOLLAND INK COLOR BOOK

Twenty new colors recently added to the Quickset printing ink line are shown in a special color book released by Van Son Holland Ink Corp. The colors, which are available in dispenser cartridges, can be used on lithographic and letterpress equipment. Circle No. 320 on Reader Service Card.

MULTIPLE HEAD OFFSET PRESS

John Waldron Corp. has issued a bulletin descriptive of the latest design of its Trailblazer multiple head offset press. It is said Trailblazer is designed to deliver up to 20,000 sheets per hr. in sizes 18 in. by 24 in. Circle No. 313 on Reader Service Card.

OFFSET GOLD BOOKLET

Speed King gold and other metallic inks are discussed in a booklet released by Interchemical Corporation, Printing Ink Div. Features of the inks are claimed to be the following: Running without piling after proper adjustments, printing 50,000 to 60,000 sheets from a single plate, quick setting and drying, and easy mixing. Circle No. 316 on Reader Service Card.

ALL PURPOSE OFFSET BLANKET

Roberts & Porter's Silver Gray Tru Dot blanket is discussed in a 12 page folder. The three ply offset blanket is said to meet the requirements for all jobs regardless of color and type of ink, kind of paper and plates, and length of run. Circle No. 308 on Reader Service Card.

DAY-GLO GRAVURE INKS

A plastic covered binder showing how the new Day-Glo gravure ink appears on different stocks, cardboard and foilboard, is available from Beck Engraving Co., Inc. Day-Glo inks, products of Switzer Brothers, Inc., are recommended for long high speed packaging and publication runs and are offered in eight colors. Circle No. 309 on Reader Service Card.

BROOKFIELD VISCOSEL SYSTEM

Bulletin p.v.c. 202 has been released by Brookfield Engineering Laboratories to describe its pneumatic viscosity control system. It is said system continuously and automatically controls viscosity of gravure and flexographic inks, varnishes and lacquers. Charts and photographs are contained in the six page folder. Circle No. 306 on Reader Service Card.

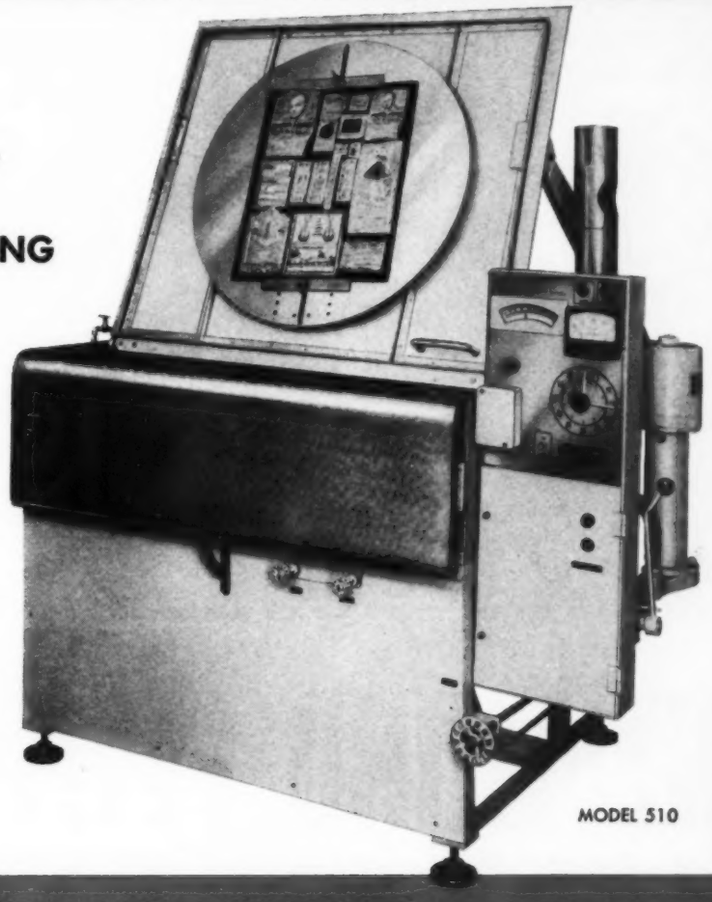
SPEED REDUCERS BOOKLET

Link-Belt Co. has issued a 24 page booklet descriptive of its new line of shaft mounted speed reducers. Included in Book 2618 is information on single reduction drives in six sizes and double reduction drives in seven sizes. Drives can be mounted at angular and horizontal positions. Circle No. 317 on Reader Service Card.

(*Continued on Page 102*)

NEW . . .

DOW-CHEMCO POWDERLESS ETCHING MACHINE



ORIGINAL MANUFACTURER
of powderless etching machines under license of the Dow Chemical Company.

MODEL 510

For Powderless Etching of Zinc and Magnesium Line, Halftone and Combination Engravings

Chemco's improved powderless etching machine incorporates many new features developed as a result of manufacturing and servicing nearly 200 of these machines. The new slip-proof, geared belt drive keeps the six full-length paddles turning in proper synchronization. This action, combined with Chemco's unique reciprocating head motion, assures uniform etching of every plate. Other features include a new leak-proof, service-free pump, all stainless steel construction of safety turn plate holder, paddles and etching tank and a lever-operated paddle speed changer. All operating controls are located in a convenient box on the right where they are easy to see and use.

In the Chemco powderless etching machine the refrigerating unit, warranted by Carrier, is located compactly within the machine. As a result the complete etcher occupies less than 28 sq. ft. and is far easier and more economical to install.

Write for complete information. Ask for a demonstration.

chemco

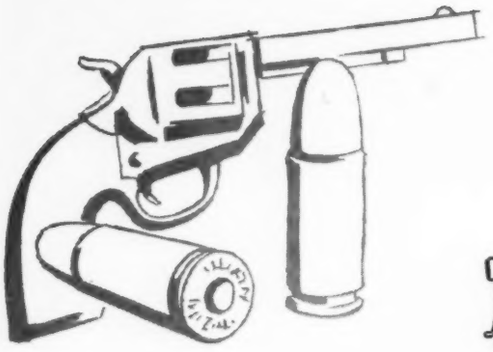
For more than 34 years Chemco has developed and manufactured products for the Graphic Arts Industry. We have concentrated on producing the finest possible film, chemicals, cameras and equipment. These products are sold and serviced through our own branch offices by experienced technical specialists. That's why we can say "If it's Chemco, it's best for platemaking".

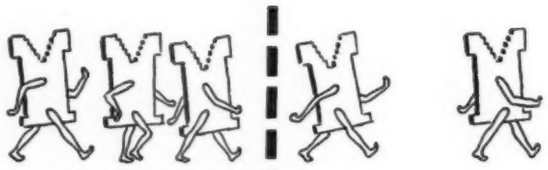
CHEMCO PHOTOPRODUCTS CO., INC.

Main Office and Plant—Glen Cove, N. Y.

Atlanta Boston Chicago Dallas
Detroit New Orleans New York

For More Information Circle 40 on Reader Service Card





3 little errors... then there were 2

ONE-THIRD FEWER ERRORS

IN ORIGINAL COMPOSITION...WHEN YOU USE

MATRIX CONTRAST SERVICE

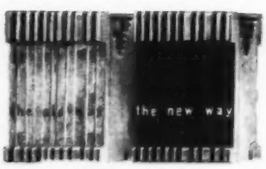
Legible reference marks in black-and-white or colors on your linecasting matrices can prevent the loss of a significant amount of production time, through the reduction of linecasting errors.

And the use of Matrix Contrast Service is without doubt the easiest and most efficient method of assuring that your matrices are up to modern standards of visibility at all times.

Here are actual figures taken from a recent survey of a newspaper composing room after they started using this convenient time and labor-saving service . . . saving in errors — 36.73%.

There is no reason why you shouldn't be taking advantage of similar savings in your own operations . . . particularly in view of the bonus you get in the form of improved working conditions for your typesetters.

Write today for full details.



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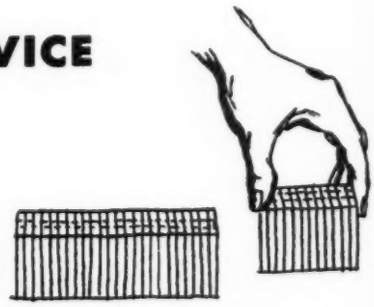


yes... 1/3 less errors

For More Information Circle 114 on Reader Service Card

PRINTING PRODUCTION

OCTOBER 1958

DO PRODUCTION MEN REALLY

Understand Paper?

Familiarize yourself with the properties of most used paper and how to handle the problems arising in the pressroom. Beginning of a four part series by a recognized authority on the subject of paper.

By BYRON L. WEHMHOFF

WITHOUT getting too involved in chemistry, the discussion in this series of articles on the most consumed printing papers is designed to assist the plant and/or pressroom executive. Through this series, it is hoped to pass along sufficient knowledge about the papers he uses so he will be familiar with the properties of paper and how to handle the problems in the pressroom.

In a way it can be said that paper is a relatively unstable product with respect to the printing processes. That is, it may change dimension because of atmospheric conditions. Without proper protective measures being taken in the plant, it may cause expensive down-time troubles.

In the series, too, are discussed some causes of press troubles which may originate during the manufacturing process. These comments will bear upon the most used kinds of sheet and roll-feed paper stock. How to recognize and eliminate ink difficulties will also be discussed. From these standpoints the series will be helpful.

Uncoated Papers

The main grades of uncoated printing papers are machine finish, English finish, and supercalendered, often in two grades, A and B. The A grade is usually of a heavier basis weight, with a better formation and usually a more uniform finish than the B grade. Machine finish papers get their finish by being put through the steel calenders at the end of the paper machine, the degree of finish being controlled by the number of nips between rolls through which the paper passes, and also by the kind of pulp, pulp treatment and formation.

In past years English finish was supposed to be a somewhat better and higher finished paper than machine finish, although not equal to supercalendered paper. Actually, there is no appreciable difference now between machine finish and English finish, orders for the two often being cut from the same reel of paper.

Supercalendered paper is machine finish paper that has been put through a supercalender having alternate steel and compressed cotton on paper rolls, with steam being applied to the paper as it goes into the calender. The principle is the same as that of ironing clothes, and results in a higher finish than that of MF or EF.

Unfortunately, the paper industry has never set up finish specifications for the three grades in terms of printability, although some manufacturers have done so to some extent. Therefore, an MF, EF, or super from one manufacturer may be better or poorer than that from another mill. There may even be a difference between the same grades from different mills of the same company.

Through laboratory tests in comparison with printing results in large commercial printing plants, conducted over a period of years, have been developed certain limitations within which good papers of each grade should fall. The general run of papers from good mills usually falls within these limits.

The smoothness of MF and EF papers should test between 200 and

350 sec., Bekk. Air permeability, an indication of ink receptivity, varies according to basis weight. For instance, a 45 lb. 25 in. by 38 in.-500 MF or EF should have an average air permeability of 40-60 sec. Supercalendered papers should have a Bekk smoothness of not less than 300 sec., (minimum, not average) with the maximum up to 500 or 550 sec. Air permeability of a 45 lb. super should average 80 sec. or better. The formation and opacity in all cases should be good.

The above figures are not mill control limits, since the paper, after calendering, carries the fibers in some degree of strain. As they tend to go back to their original condition, allowance must be made in the mill controls. This is usually some 50-100 sec. higher than the above requirements.

I mention Bekk smoothness, since I have had more experience with that instrument than with the later developments. The Sheffield gauge operates on the same principle as the Bekk, but the figures are different, and the operation is much faster. The manufacturer's claims generally parallel results with the Bekk. Of course, the greater speed of operation is an advantage, particularly on high finish papers, such as machine coated. The other instruments have been used only to a limited extent, and no data are available as to their value in measuring printing smoothness.

Machine Coated Paper

Machine coated papers, as indicated by the name, are made by applying the coating on the paper machine during the drying process. Subsequent calendering operations are the same as for supercalendered papers. Coating on the machine obviously means considerable saving in cost over the older conversion coated method, in which the paper is coated in a separate operation after it comes off the machine. The final product is superior in printability to machine coated paper but the additional cost does not warrant its use except for very high grade jobs.

Machine coated papers, now in about the same price range as supercalendered paper, are fast replacing the latter in general printing jobs, magazine printing in particular. The quality of printing is much superior and the paper can be obtained generally in the same basis weights as EF and super.

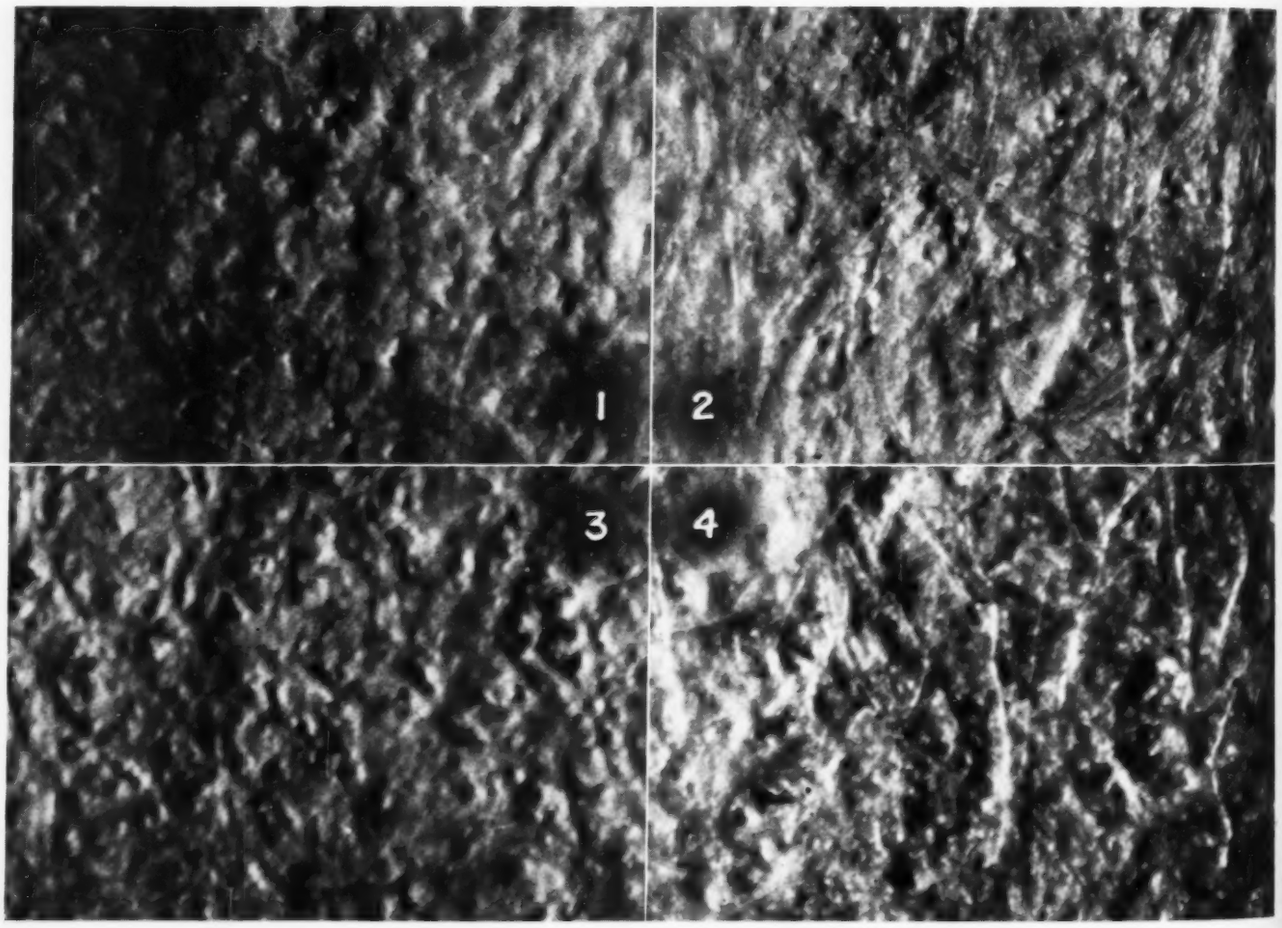
These screened reproductions of sections of four photomicrographs of the felt and wire sides of two sheets of paper show the difference in paper quality and printability due to differences in pulp and pulp treatment. Samples are 45 lb. uncoated rotogravure super. They were made on the same paper machine and printed by rotogravure process on the same press, for the same job, for a magazine.

All are 40X magnification.

No. 1 and No. 2 are reproductions of sections of the felt and wire sides of a paper that printed satisfactorily.

Nos. 3 and 4 are the felt and wire sides respectively that caused unsatisfactory printing. Note that the surfaces of Nos. 3 and 4 are much rougher and carry many more pockets and depressions between the fibers than do Nos. 1 and 2. This resulted in skipped cells and a grainy appearance in the printing, especially in the highlights.

It was noted that the wire side in No. 2 of the good sheet produced better printing than the felt side of No. 3 of the poorer sheet. Normally, the printing on the felt side of paper is better than that on the wire side.



Printing quality specifications for machine coated paper are still in the development stage. It has been found that in the lighter basis weights, under 60 lb., a smoothness of 500 sec. Bekk, minimum, will print all the dots in a 120 line screen halftone. A somewhat lower smoothness is permissible in the higher basis weights, since the resiliency of the heavier base stock permits greater levelling of the paper surface at the instant of printing.

A higher smoothness will print no more dots, and can only be obtained at the risk of loss of opacity and also of blackening during the calendering operation.

The principal defects in machine coated papers are non-continuous coating and pinholes in the coating, neither of which can be detected by the smoothness tests.

Trend in Offset Papers

The above comments on smoothness apply primarily to letterpress and gravure papers, since offset printing does not require as high a smoothness. However, in recent years there has been a tendency toward higher finishes in offset paper, as the printed results resemble more closely those of letterpress printing. This is particularly true in machine coated paper where a considerable amount of color work is done. Most manufacturers make all their machine coated papers to the same finish, regardless of how they are to be printed.

Gloss is the measurement of the light reflected from the paper surface at a definite angle, usually 15 deg. from horizontal. It is to some extent a measure of smoothness on high finish paper, such as machine coated, and is used to a considerable extent in the manufacture of such paper. In some mills recording glossmeters, oscillating slowly across the moving web as the paper comes off the calender, give a continuous measure of the gloss on both sides of the paper.

As in the case of the other printing quality characteristics, uniformity within a predetermined range is essential. The range varies according to the quality and to some extent to the basis weight, the lowest gloss being on light weight publication papers.

The fineness of the screen used in

(*Continued on Page* 98)

Prolongs Etching Bath—Saves $4000

A METHOD that prolongs the life of a powderless etching bath is expected to save Minneapolis (Minn.) *Star* and *Tribune* engraving department more than $4000 per year in chemicals and labor. The new method was devised by Carl Richter, an etcher in the newspapers' engraving department.

Richter, using the Dow Chemical Co.'s Bath-Testing method on a trial and error basis, devised a chart which shows the proper amount of Solvesso No. 150* (an aromatic naphtha) and acid needed to restore to operating standards an etching bath consisting of water, acid and Imperial Type Metal Co.'s etchant known as Vitasolv.

Prior to using Richter's new method, it was necessary to prepare a fresh etching bath with every shift change, or 13 fresh baths per week. Under this new method six fresh baths per week are necessary.

Utilizing this new method, it is now possible to etch up to 200 oz. of zinc with one bath and keep the bath up to operating standards for more than 30 hrs. Before, from 60 to 75 oz. of zinc were etched per bath—a normal bath lasting approx. 8 hrs.

How Method Works

Here is the way it works: A test of the solution (see front cover) is made after the first 60 to 75 oz. of zinc have been etched in the original bath. The test is made by utilizing a 110 milliliter Cassia flask that has the last 10 milliliters graduated in tenths at the top of the flask.

A 100 milliliter sample of the bath is poured into the Cassia flask. To this amount is added 10 milliliters of acetone. The mixture is thoroughly mixed and allowed to stand for 5 min.

The Solvesso remaining in the bath solution separates out at the top of the flask and its depth is then measured in tenths on the graduated scale.

If the reading is less than the 1.7 milliliters the newly devised chart is consulted to determine the proper amount of Solvesso and acid needed to restore the bath to proper operating conditions.

Richter's experiments with this method provided the following chart for restoration of the bath:

Milliliters Differential	Milliliters of Solvesso #150	Milliliters of 42 deg. Acid
0.3	375	300
0.5	625	500
0.7	875	700
0.9	1125	900

For example, a reading of 1.2 on the Cassia flask would indicate a differential of 0.5 milliliters and would necessitate the addition of 625 milliliters of Solvesso and 500 milliliters of acid to restore the bath to operating standards.

The engraving department continues to add 1 oz of acid for each ounce of zinc etched after each plate. The figures in the table are in addition to this amount.

Figuring Cost Savings

Under the old method, reported the *Star* and *Tribune*, the cost of preparing a bath for powderless zinc etching is approx. $10 per bath. Utilization of 13 baths per week cost the company approx. $130. Under the new method, six baths per week at a cost of $10 per bath cost management $60 or a savings of $70 per week. This results in a $3640 savings per year.

It is estimated that the cost of restoring six baths with Solvesso and acid is $2.40 per week.

Based on an average engraver's wage scale, said officials of the newspapers, the labor savings involved is approx. $500 per year. This figure added to the already established figure of $3640 above results in a more than $4000 savings per year.

*Specifically, Solvesso No. 150 is distributed by Standard Oil Co. of Ohio. However, many oil companies manufacture a similar product and distribute it through chemical houses under a different name. The *Star* and *Tribune*, for example use WC 150 distributed by Worum Chemical Co., St. Paul, Minn. This product is made by Shell Oil Co. It is still referred to by photoengravers generally as Solvesso No. 150.

Special report on latest photoengraving process indicates letterpress has received help where needed most.

MACHINES AND METALS FOR

Powderless E

A NEW lease on life, said one letterpress printer recently in referring to the powderless etching processes now prevalent in the photoengraving industry.

He is no doubt right because the savings, mainly in time, has been a deterrent to letterpress printing plants considering converting to the lithographic process. In the newspaper field, where production costs are soaring, powderless etching techniques have accounted for substantial increases in the number of flats processed each hour, and therefore a cost savings.

Spurred by the joint development of a fast etching process for magnesium by American Newspaper Publishers Assoc. and Dow Chemical Co., other companies quickly found means of applying their own metals to powderless etching. The process is now widely used for both zinc and copper plates. Keeping pace have been the equipment companies which now offer a variety of etching machines specifically designed for the high speed applications.

Not unlike other new processes, however, powderless etching has experienced problems which have had to be solved at the practical level. These growing pains will be reflected in this report and the solutions found for each problem will be described. Also, the machines and metals presently used in the powderless etching processes will be discussed to provide a current picture of this entirely new field and its impact on letterpress.

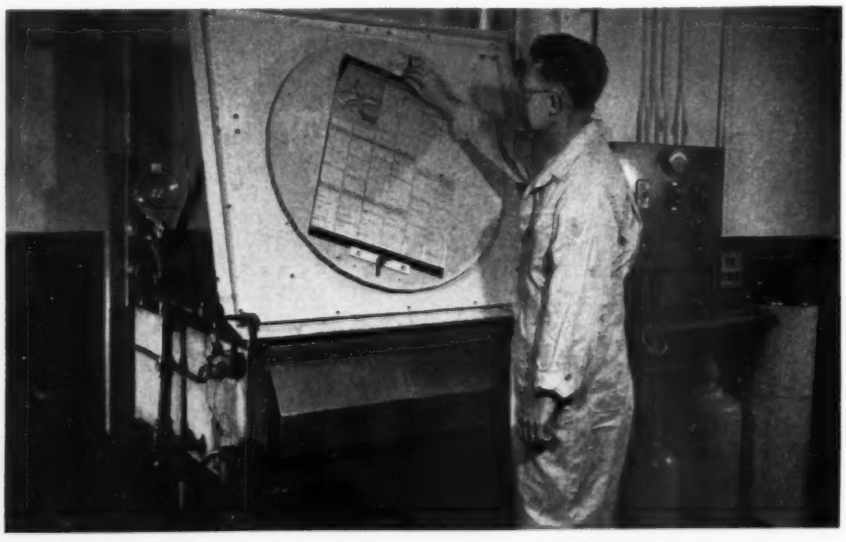
ADVANTAGES IN PROCESS

One of the chief advantages in powderless etching is the time factor. One photoengraving superintendent reported his department is now averaging better than one 18 in. by 24 in. flat per man every 20 min. as compared to one per hour before.

Fred Orr, News Print Engraving Co., Chicago, reported the following savings from powderless etching in a one year period: "Labor cost per thousand square inches of zinc etched reduced 21.7%. Cost of chemicals, including royalty charges, reduced a few hundred dollars. Over-all savings in dollars and cents in labor and chemicals, including royalty payments but not including metal costs, approximately 28%."

One newspaper reported these production increases: In a two month period of 1949, a shift turned out 847 18 in. by 22 in. etched flats by conventional techniques. For the same two month period of 1956, using the Dow etching process, 1228 plates were completed with the same men and equipment. The following year, same period, this figure jumped to 1335 plates "with considerably less overtime."

There are other advantages as well. Louis Flader, the photoengraving industry's acknowledged spokesman, said: "Powderless etching does away with the use of resinous powders resulting in dirt and dust that have their effect upon other areas of photoengraving, as well as its hazards to health."



First of the powderless etch plates—made of magnesium metal—was processed on a machine like this. It is a Dow Etch Machine and operator is shown after completion of first step in making a combination magnesium plate.

CURVES AND BATHS

Within the past year, interest has swung to utilizing powderless etching for making curved engravings—long sought by rotary printers to eliminate use of electrotypes. Kable Printing Co., Mt. Morris, Ill., has been successful in this technique by using Imperial's new zinc alloy plates. It has reported press runs on these plates, which were chrome plated, of up to 800,000 impressions without any signs of wear.

Enthusiasm for curved magnesium plates made by powderless etching was expressed by Robert H. Downie, Marathon Div., American Can Co., Menasha, Wis., at this year's Research and Engineering Council meeting. He said magnesium offers lightweight and provides

By EDWARD H. OWEN
Associate Editor

ing Processes

Enlarged close-up of a line cut made by the powderless etching process on zinc alloy plate stock. Smooth, stepless shoulders and clean, deep etching are characteristic of powderless etch plates. (Photo courtesy of Edes Mfg. Co.)

the hard edges needed for lockup on presses. In addition, he added, they are getting good register and have reduced makeready moderately by using these plates. More work on curved engravings has been done by Brooks & Perkins, Inc., which is discussed later in this report.

Proper preparation of the etching bath for powderless etching seems to be the secret of economies in the process. Possibly the newest development in this respect has been reported by the Minneapolis (Minn.) *Star* and *Tribune*. Etcher Carl Richter has worked out a new method that prolongs the life of a fast etching bath which is expected to save the newspaper's engraving department more than $4000 per year in chemicals and labor.

The method, which is explained in detail on page 45, follows a specially devised chart for restoring an etching bath for zinc plates to operating standards. Six fresh baths per week are now prepared as against 13 before; up to 200 oz. of zinc are now etched in one bath as against 60 to 75 oz. before; and one bath lasts for more than 30 hrs. as against 8 hrs. before.

Another plant reported it etches about ten 18 in. by 24 in. combination zinc plates or 125 oz. of metal in one bath. At the Washington (D. C.) *Star*, Quentin Clark, engraving superintendent, said they obtain 40 magnesium flats per halftone bath. He credited the Dow Rapid Etch Process for production increases. They are averaging better than one 18 in. by 24 in. flat per man every 20 min., as compared to one per hour before.

MAGNESIUM PLATES

Initial work in powderless etching of photoengravings was conducted jointly by Dow Chemical Co. and American Newspaper Publishers Assoc. The latter's research laboratory in Easton, Pa., worked primarily on development of a practical method for etching combination line and halftone plates. Magnesium was chosen as the metal because of its rapid etching, lightweight and high compressive strength characteristics. It was found also that magnesium can easily be machined for sawing, routing, beveling and tooling operations.

Many of the problems associated with magnesium for printing plates have been overcome gradually. It was thought at one time the metal could not be soldered, but a technique has now been devised for accomplishing this.

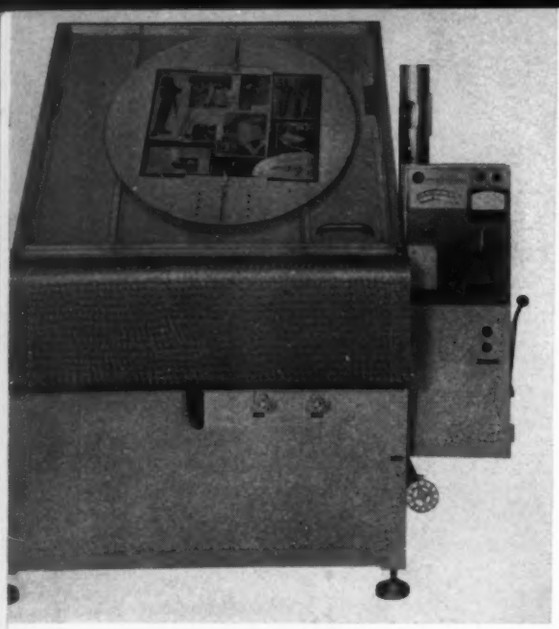
Dow has released the following information concerning its process: Constituents of the magnesium etching baths used with the Dow Etch Process are nitric acid, dioctyl sodium-sulfosuccinate (filming agent), diethylbenzene (solvent), sodium sulfate and gelatin. Problems involved in the powderless etching of magnesium generally are solved by varying one of these constituents.

For example, if line work is undercut, more filming agent is added in increments of about 20 grams until the undercutting has ceased.

If halftones are shallow in the "highest" highlight areas, sodium sulfate is added in increments of five grams each until a maximum of 0.035% is present (45 grams for 130-liter volume). If the proper depth has not been achieved, the concentration of diethylbenzene in the bath is reduced by operating the paddles of the Dow Etch machine with the vent in the exhaust stack closed. The normal operating range for diethylbenzene with a fresh bath is 2.6 to 2.9%; with an older bath, 2.7 to 3.2%.

If there is ample halftone depth but highlight dot areas are bordered with heavy, uneven shoulders and highlight drop-out areas are shallow, the diethylbenzene is increased slightly. The shoulders

Enlarged close-up of a zinc plate etched in the conventional manner. This contrasts with the view of the powderless etch plate shown above. Powder step formations are visible on shoulder of letter. (Photo courtesy of Edes Mfg. Co.)



Both magnesium and zinc flats up to a full 22 in. by 28 in. size may be processed on the Model 510 Dow-Chemco powderless etching machine. Unit offers 32 gal. bath capacity and six paddle drive system among its features.

should be eliminated before loss of depth in the halftone is too great. If excessive shoulders and unevenly etched splotches of scum are still in evidence, the acid should be increased by about ½ liter.

The Dow Etch Process and the baths used in the process are patented and a license must be obtained from the Dow Chemical Co. for their use—regardless of the metal etched, the source of etchant or type of etching machine used. Several etchants now on the market are within the scope of the Dow patents. According to Dow Chemical Co., these include: VitasolV, Micro-Mix Deep Etch, Dirats 116 and Zinc-Ol. The Dow Etch machine also is patented.

A relatively new firm in the magnesium metal field is the Magplate Div. of Brooks & Perkins, Inc., which was formed in 1955. It offers what it calls a "high purity magnesium" (99.95% minimum purity specification). What this means to the printer, say Magplate spokesmen, is that plates made from their metal eliminate need for makeready due to plate level inaccuracies.

B&P believes that the future of magnesium for Graphic Arts plate applications lies in direct printing and the company has been working to develop its metal to this end. It has led the field in developing curving techniques for magnesium. These curved plates, which are also made by the powderless etch process, are being used by several printing firms. One of these companies reported a run of 1½ million impressions and that the plates were still serviceable.

ZINC ALLOY PLATES

Soon after the acceptance on a wide scale of magnesium as a printing plate metal came announcements from three metal companies of the development of special zinc alloys for use in powderless etching. These firms report good reception to their respective metals as more and more photoengraving plants have gone over to the faster process.

Vitaplate, a zinc alloy, and VitasolV, its etchant, developed by Imperial Type Metal Co., were the first materials of this kind to appear on the market.

The V-V process, as it is called, is suited for halftone, line and combination plates. In combination plates, states Imperial, it will etch the line work to the optimum depth of from 0.030 in. to 0.035 in. while holding the halftone work on the same plate to 0.006 in. It may be used with good results on both coarse and fine screen work.

VitasolV is a one-solution mixture which, when added to the nitric acid water bath in the etching machine, does not require the addition of other chemicals. The formulation of VitasolV, adds Imperial technicians, has sufficient latitude so that minor adjustments to the machine operating conditions, i.e., paddle speed and/or temperature, or minor variations in the composition of the bath, will produce marked differences in the characteristics of the shoulders on the plate.

One month later came the announcement by Rolled Plate Metal Co. that photoengravers could now apply its fine grained zinc base alloy, Micro-Metal, to a "one bite" powderless etching system by means of a newly-developed chemical additive, Micro-Mix Deep Etch. The chemical is added to the nitric acid and water solution.

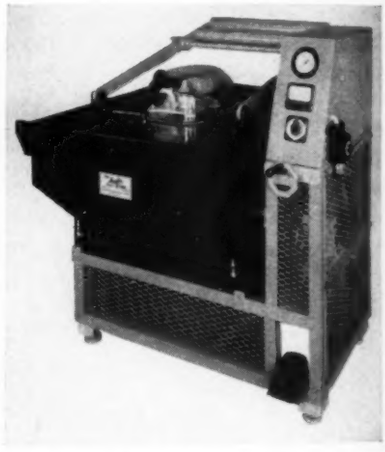
Rolled Plate Metal Co.'s materials can also be used for making halftone, line or combination plates. It claims plates can be etched to depths of 0.040 in. or more at the rate of 0.003 in. per min. The metal, states the manufacturer, will not produce color loss, blanking or undercutting. Also, the single bath used does not disintegrate overnight or have any immediate chemical changes.

The third company to provide the photoengraving industry with a successful fine grain zinc alloy and etchant for powderless etching applications was Edes Manufacturing Co. Its Triplemetal 100 and Zn 100 additive are the trade names which identify these products.

The additive is available in a standard pre-mixed solution as well as a concentrate. Edes sees savings of up to 65% of etchant additive costs by photoengravers who use Zn 100 Concentrate in conjunction with an organic solvent necessary to create the proper bath formulation for the etching of Triplemetal 100. Triplemental 100 is made up of zinc, aluminum and magnesium.

COPPER PLATES

Along with the rapid introduction of the zinc alloys for powderless etching came a report from Georgia Institute of Technology that a technique had been developed for the powderless etching of



A machine for powderless etching of copper photoengraved plates, developed by Master Sales & Service Corp. Maximum plate size is 20 in. by 24 in.

photoengraved copper plates. The project was sponsored by Photoengravers Research, Inc.

With this process, said Georgia Tech, a fine screen etch can be achieved on copper plate stock in approximately 2½ to 3 min.; a coarse screen etch in 5 to 5½ min. The powder additive which makes the rapid etching action possible has been designated GT-1. William

Bradley of Litho Color Corp., Atlanta, Ga., reported to R&EC members that of 50 plants which have installed the process, only 20 are using it successfully. He attributed this to human failure, but added that the development of the process is not yet complete.

ETCHING MACHINES

There are a number of powderless etching machines on the market which are designed for use with different metals. Chemco Photoproducts Co., Inc., offers such a unit which may be used for etching line, halftone and combination engravings on zinc and magnesium. Called the Model 510 Dow-Chemco machine, it will accommodate a maximum plate size of 22 in. by 28 in. The rate of etch on this machine is said to be up to 0.003 in. per min. Also, it will provide a depth of 0.035 to 0.040 in. in line areas. A six paddle drive system conforms closely to findings of original Dow research.

Also for powderless etching of zinc and magnesium engravings is a 24 in. by 24 in. maximum plate size machine developed by Dirats Photo-Plate Co. Six rows of synchronized paddles are used on this machine to provide uninterrupted and uniform splash over the entire surface of the plate.

The Dirats firm states a desirable feature of the machine is that it can be operated below 150 r.p.m. to pre-mix the bath and eliminate oil splashes on the plate which would result in dirty flats.

Four models of the Dow-Master Powderless Etcher are offered by Master Sales & Service Corp. Maximum plate sizes include: 15 in. by 18 in.; 20 in. by 24 in.; 22 in. by 28 in. and 24 in. by 40 in. All are designed for etching zinc and magnesium plates. Master also markets a 20 in. by 24 in. machine for the powderless etching of copper plates.

Features of the four zinc machines include: Two multi-paddle assemblies for assuring uniform etch; automatic temperature control to eliminate variations in etch quality, and automatic time control.

PROBLEMS IN PROCESS

Indications that the powderless etching processes are not foolproof in accomplishing the results predicted have come out at a number of industry meetings. A successful user, Ebbie Jennison, engraving superintendent, Minneapolis (Minn.) *Star* and *Tribune*, put it this way: "I don't want to mislead anyone into thinking that use of the new process is only a push-button operation. The results will only be as good as the operator."

Frank Bonner, Rolled Plate Metal Co., agrees with this. He said best results in the powderless etching process can only be accomplished by a skilled craftsman who understands the theory of what is happening. This conformed closely with the report by William Bradley on powderless etching of copper—that 30 of 50 plants had experienced failure in successful application of the process because of human failings.

Others believe proper maintenance and operation of the etching machine is necessary if uniformly satisfactory results are to be achieved consistently. One metal company spokesman said it this way: "The etching machine performs a vital part in powderless etching so that a program of maintenance is a must."

Some troubles with powderless etch plates also have been encountered at the pressroom level. Floyd Lear, jr., Industrial Engraving Co., Easton, Pa., advises that pressroom personnel must first be educated in the importance of powderless etched plates and instructed how to use them. This is especially true for supervisors who are not familiar with this type of plate. He emphasizes that printers must take the time to learn about the plates from which they are printing.

This indicates that success in powderless etching, as in many other processes, remains with the human element. Photoengravers have said there are no secret formulas used. Recommended instructions by the metal companies are followed in just about every case with good results.

Engraving Superintendent Clark

HINTS IN SOLVING POWDERLESS ETCHING PROBLEMS

(Courtesy of Edes Manufacturing Co.)

PROBLEM	PROBABLE CAUSES	REMEDIES
Pimples.	Improper descumming.	Plates must be free of all residual enamel and film before etching. Recommend scumming with 6-1 nitric acid solution and 9-1 sulphuric acid solution. A scumming of 6-1 nitric acid followed by a coating of gum arabic (14° Baume) also gives excellent results.
Undercutting at top of plate.	Too high paddle speeds. Low acid content. Old bath (protecting film dissipated by acid).	Lower paddle speed. Increase acid in increments of ½ liter. Change bath.
Undercutting at bottom of plate.	Too high paddle speed. Film thinned from excessive additions of solvent.	Lower paddle speed near end of etching cycle. Compensate for high solvent content with more acid.
Blanking off.	Insufficient agitation of bath. Poor scumming.	Check pump for proper amount of turbulence. (See remedy for pimples above.)
Dirty etching in close lettering and at bottom of shoulders.	Old bath. Solvent content in bath too low. Insufficient acid.	Change bath. Add Solvesso 150 or equivalent to bath in increments of ¼ to ½ liter. Add acid to bath in increments of ¼ to ½ liter.
	Too much acid.	Run next plate without making normal acid addition.
	Insufficient paddle dip. Temperature too high.	Adjust bath level to conform with machine instructions. Keep bath below 82 deg. F.
Excessive depth in halftones with straight shoulders.	Insufficient acid volume. Paddle speed too high.	Add acid to bath in increments of ½ liter. Lower paddle speed.
Shoulders too broad—shallow depth in halftone.	Acid content too high. Paddle speed too low.	Adjust acid so it is within 13.5% to 14% of bath volume. Increase paddle speed.

of the Washington (D. C.) *Star* describes a new twist in their measurement of chemicals: "We have tried to take all the complicated operations out of our work, and stay away from grams, milliliters, etc., and use simplified measuring of our chemicals. For measuring cellulose and gelatin, we use ordinary kitchen measuring spoons of different sizes and colors. We know that one red and one blue spoon will equal so many grams, etc. Each etcher is capable of preparing his own bath."

TECHNICAL PROBLEMS

Photoengravers have experienced a number of technical problems in the powderless etching process. Some of these and their remedies are mentioned in the special table accompanying this story. The following is from the handbook issued by Imperial Type Metal Co. on the use of its materials for powderless etching.

"The most important problem to date has been what we call 'pimples.' These are small cone-shaped areas of metal which refuse to etch.

"By the nature of the process, the finest pinpoint highlight dot will be retained. A proper bath will not undercut and will in fact build out structure (shoulder) from anything of any size which resists the initial spray of bath.

"This means that the first important step is to opaque all pinholes in work areas of negatives. In conventional etching, these pinholes cause no trouble because the resulting pinpoint of enamel on the plate will be knocked off during the first powdering. In powderless etching, since nothing removes the pinpoint of enamel, shoulder will form around it.

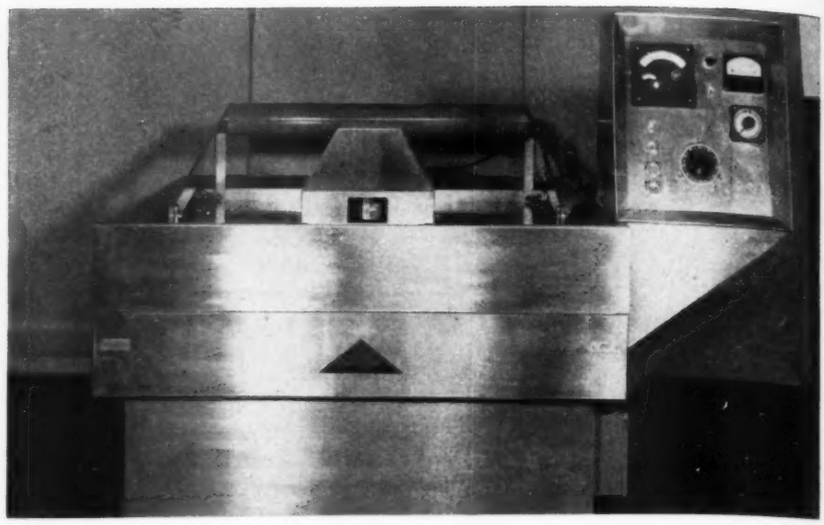
"Pimples can be explained best by realizing that a burned-in cold-top print forms a very strong resist. Even a scum of cold top will resist the etchant after it has been burned in. We believe it is cold-top scum and partially exposed cold-top pinpoints on the plate which cause most of the trouble with pimples.

"The remedies are therefore in the hands of the printer. As far as can be determined, there are three important points. Plates should not be heated too much during whirling since this is an acknowledged source of fogging and difficult development. Prints should be exposed sufficiently to give a hard top, but overexposure should be avoided, particularly with even slightly weak negatives. Prints should be developed fully and even overdeveloped. A print which breaks cleanly and completely in the sink under running water, and which needs almost no cottoning, will usually etch cleanly."

There is substantial evidence in the country's photoengraving plants that the powderless etching process has already accounted for renewed vitality in this platemaking field. It should also account for noticeable operating cost savings in many plants as more of the equipment for the process is installed. It has broken an enormous blockade in the newspaper printing operation by supplying speed to the mechanical department which for so many years had a reputation for slow production.

Powderless etching's impact upon the future of the two main letterpress fields—commercial and newspaper—will be determined by the acceptance and application of the process by craftsmen in all plants.

Looking inside a powderless etching machine. Plate is clamped to underside of top cover, lid is lowered, and etching bath is splashed up against plate by rotating paddle assemblies. This is Master Sales & Service Corp.'s M-32 machine which will accommodate zinc and magnesium plates up to 20 in. by 24 in.



Zinc and magnesium plates may be etched by the powderless method on this 24 in. by 24 in. maximum plate size machine offered by Dirats Photo-Plate Co., Inc. Six rows of synchronized paddles for uniform etching are featured in the unit.

New Plant for Mergenthaler

Work was expected to be completed in September on a new building for Mergenthaler Linotype Co. at Plainview, L. I., N. Y., for the manufacture of Linotype machines and Davidson printing presses. The building will cover an area of 250,000 sq. ft. According to Mergenthaler, the new manufacturing facilities are expected to increase operating efficiency.

GTA Plans One-Day Forum

Gravure Technical Assoc.'s annual one day forum will be held at the Hotel Sherman, Chicago, Oct. 30, it was announced recently by Theodore J. Stulz, president. The program will include talks on paper and foil laminating and a general discussion on preprinted rolls by color gravure. Other features include a talk on the printing of polystyrene by gravure and a panel discussion on packaging cylinders.

RESEARCH

Workshop for newspaper maintenance electricians will be held Nov. 3-7 inclusive at the Drake Hotel, Chicago, by ANPA Research Institute. Workshop will consist of technical discussions and circuit analysis covering all phases of electrical maintenance. Each participant will work with his own plant's power and controller circuits and trouble shooting techniques. Workshop is limited to maintenance electricians and others responsible for electrical maintenance in the plant. Meeting will be under supervision of Warren Palmer, assistant electrical superintendent, New York *Times*, and William Braasch of ANPA.

Discussions about web printing and powderless etching are presented in the report of the recent annual conference of the Research and Engineering Council. The section, *What About Web Printing?* contains a panel discussion led by George Harper of MacLean Hunter Pub. Co., with panel members including David Safran, The Safran Printing Co.; William E. Ward, III, Baird-Ward Printing Co., Charles Edson, Kable Printing Co., and J. Russell Parrish, Meredith Publishing Co.

The *What's With Powderless Etching?* section is report of panel discussion under leadership of Ed Shipley of Kingsport Press. Other members of this panel were James W. Bradley, Litho Color Corp.; Robert H. Downie, Marathon, Div. American Can Co.; W. I. Frisch, The Wright Co.; Floyd Lear, jr., Industrial Engraving Co., and E. W. Thomas, Speaker-Hines and Thomas, Inc. Advantages and disadvantages of the powderless etching technique from user's viewpoint, and discussion in detail of copper, magnesium, and zinc etching are given.

Copies available from Research and Engineering Council, 5728 Connecticut Ave. N.W., Washington 15, D. C. at $10 each.

A Color Correction Masking Seminar for gravure personnel will be held by Gravure Research, Inc., on Friday, Oct. 31 at Hotel Sherman, Chicago. Demonstrations of masking techniques will be shown in a sound color movie. Other subjects to be covered will consist of color reproduction theory and sensitometry. Attendance limited to GRI member personnel only.

Printing Industry of America Executive Committee Meets

A series of important management, professional and executive meetings for the commercial printing industry is made available annually. The meetings are designed to keep the commercial printing industry abreast of modern developments in general management, finance, production, sales and manpower. The meetings include special interest groups such as trade binders, web offset printers, business forms printers, etc.

The meetings are sponsored by the Printing Industry of America, Inc. They may be held in various cities as scheduled. This picture of a PIA executive committee meeting was taken at PIA national headquarters building, 5728 Connecticut Ave., N.W., Washington 15, D. C. some time ago.

Identified in the picture clockwise, are:

John A. Bresnahan, PIA General Counsel.

Wm. Barnes O'Connor, Exec. Secy., Graphic Arts Assoc., Baltimore, Md.

J. M. K. Davis, The Connecticut Printers, Hartford, Conn.

John H. Goessele, jr., C. O. Owen & Co., Maywood, Ill.

Charles E. Schatvet, PIA Secretary, Guide-Kalkhoff-Burr, Inc., New York, N. Y.

J. R. Jackman, Chairman, Planning Committee, The Rumford Press, Concord, N. H.

Bernard J. Taymans, PIA Gen. Mgr., Washington, D. C.

Col. H. R. Kibler, PIA President, W. F. Hall Printing Co., Chicago.

Horace Hart, Director, Printing and Pub. Div., Business and Defense Services, U. S. Dept. of Commerce, Washington, D. C.

Kurt E. Volk, PIA Vice Pres., Kurt H. Volk, Inc., Bridgeport, Conn.

Hon. Raymond Blattenberger, U. S. Public Printer, Washington, D. C.

Mrs. Helen K. Fisher, PIA Administrative Asst.,

Reuel D. Harmon, PIA Past President Webb Pub. Co., St. Paul, Minn.

John S. Williams, Franklin Printing Co., Primos, Pa.

Max B. E. Clarkson, Clarkson Press, Inc., Buffalo, N. Y.

William J. Keating, Executive Secretary, Printing Industry Connecticut, New Haven, Conn.

W. Carey Dowd, III, President, PIA Master Printers Section, The Dowd Press, Inc., Charlotte, N. C.

Elmer M. Pusey, Chairman, PIA Finance Committee, Judd & Detweiler, Inc., Washington, D. C.

Francis N. Ehrenberg, President, PIA Union Employers Section, Blanchard Press, Inc., New York, N. Y.

More than 2200 attend record Boston litho convention—
Technical clinic provides answers to many production problems.

NAPL PREPARES FOR

Improved Lo

THE biggest meeting of lithographic executives ever held was staged by the National Assoc. of Photo-Lithographers when it convened for its 26th Annual Convention and Exhibit at Hotel Statler, Boston, Sept. 10-13.

A grand total of 2220 registered which went into the records as an all-time high for NAPL sponsored activities. The all-lithographic audience was treated to a series of business meetings and technical clinics which emphasized the need for lithography to retain its major position in the Graphic Arts. The program was planned under the direction of Walter E. Soderstrom, NAPL executive vice president.

Rinehart Elected President

Elevated to the presidency of the NAPL at the Boston convention was Stanley R. Rinehart, E. I. du Pont de Nemours & Co., Wilmington, Del. He succeeds Otis E. Wells, Western Lithograph Co., Wichita, Kan.

Other new NAPL officers are: J. Tom Morgan, jr., Commercial Printers, Inc., Columbus, Ga., vice president; William H. Glover, jr., Sweeney Lithograph Co., Belleville, N. J., treasurer, and George Carnegie, Consolidated Lithographing Co., Carle Place, L. I., N. Y., secretary.

The exhibition of lithographic equipment and supplies was once again a popular attraction of the annual gathering. Nearly 100 companies occupied 165 display booths in the Hotel Statler and nearby First Corps Cadet Armory. Many of these firms offered live demonstrations of new or recent developments in their product lines.

The association's annual award to an outstanding craftsman in the lithographic industry went to John L. Kronenberg, manager, Lithographic and Label Paper Div., S. D. Warren Co., Boston.

NAPL's 1959 convention will be held in Kansas City, Mo., at Hotel Muehlebach, Nov. 18-21.

Research to the Rescue

Among the talks delivered at the Boston convention was one entitled *A New Look at Research* by Michael H. Bruno, research director, Lithographic Technical Foundation, Chicago. He credited research as "coming to the rescue" of lithography when it was threatened by the application of dry offset principles to the process. He said research efforts have done such a good job in eliminating the troubles that plague lithography, "that we hardly ever hear of dry offset any more except for special uses."

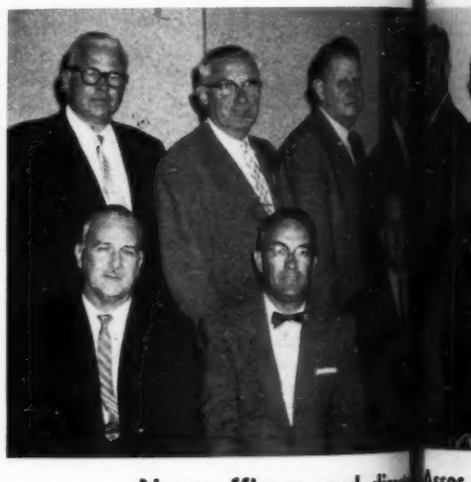
Bruno remarked that lithography has grown and thrived to some extent at the expense of letterpress. He added: "Until recently, letterpress has been helpless while lithography raided its best accounts. It was like shooting sitting ducks. But it can't last much longer." He saw letterpress as finally awakening and doing something about its problems. A great deal of research, he said, is now going on in letterpress and many of the advantages of lithography are gradually being whittled away.

The speaker mentioned several areas in which lithographers always thought they had the edge over their letterpress counterparts. According to Bruno, these include: Rotary letterpress presses which now have speeds almost comparable to offset presses. Letterpress makes less stringent demands on paper and can use cheaper papers and inks. Letterpress makeready time is also getting a great deal of attention in research. He also mentioned that gravure is waking up, too, and is solving its problems through research.

Copying Litho's Lead

He cautioned: "With the other processes waking up, lithographers must be especially careful not to become smug, think we're pretty smart, sit back and let them steal the march on us. There is little solace in the fact that we have spurred the other processes on to do research; that they are copying our lead in organizing research foundations, and even setting up seminars and forums like we have been conducting for years. We can feel justly proud, but we must also make sure that we can stay ahead of them.

"We must try to retain what competitive advantages we have gained, and develop more. We must recognize that some of our old advantages of lower cost, higher speed,



New officers and direc

Seated, left to right: Juan Suarez Servia, Co grafica De La Habana, S.A., Havana, Cuba, Carnegie, Consolidated Lithographing Co., N. Y., secretary; William H. Glover, jr., Co., Belleville, N. J., treasurer; Stanley R. Pont de Nemours & Co., Inc., Wilmington, Otis E. Wells, Western Lithograph Co., president; Walter E. Soderstrom, executive York, N. Y.; Charles E. Mallet, Rand Avery Inc., Boston, director. Absent from picture is jr., Commercial Printers, Columbus, Ga., vice

By EDWARD H. OWEN,
Associate Editor

Lo Operations

shorter deadlines are slipping away. We must look for new advantages and sell them. We must get ready to go out and sell lithography, not as an alternate method of printing, but as a process that has its own features and merits. Lastly, we must realize, that, in spite of the great advancements made in lithography, it is not a finished process yet. There are still problems to be solved before we can expect trouble-free operation."

The research director suggested that to accomplish all this will call for a lot more research work than the industry is now sponsoring. He said LTF is already started on the job. "Results will come," he added, "but they will be slow unless the present rate of income is stepped up so that we can hire more people to work on the problem."

Bruno concluded: "Lithographers have been awake for 30 years while printers using the other processes were asleep. Let's not go to sleep now when letterpress and gravure are waking up. . . . This could be the most critical period in our history. New developments in letterpress and gravure could stunt our growth or even stop it, unless we take steps to avoid it. More research is the answer."

Advice About People

Advice that better results can be obtained by consulting with people in the plant was given by Ralph W. Stanley, director of work simplification, Rust Craft Greeting Card Co., Dedham, Mass. Speaking on *Work Simplification — What's In*

Assoc. of Photo-Lithographers

anding, left to right: All directors, Paul Walker, Sterling s, Los Angeles; William A. Kreuger, W. A. Kreuger Co., kfield, Wis.; Arthur C. Eckert, Columbia Planograph Co., shington, D. C.; Jack S. Miller, Gazette Printing Co., Mont- , Can.; Bernard Semtner, Semco Color Press, Oklahoma , Okla.; Harry E. Brinkman, Cincinnati (O.) Lithographing Arthur T. Howard, A. T. Howard Co., Boston; Milton Hud- , Recording & Statistical Corp., New York, N. Y.; Hugh Ashton, Aston-Potter Ltd., Toronto, Can.; George R. Hoov- Joseph Hoover & Sons Co., Philadelphia; Roscoe C. Tor- , Metropolitan Press, Seattle, Wash.

Litho Exhibit Attractions
(All names read from left to right)

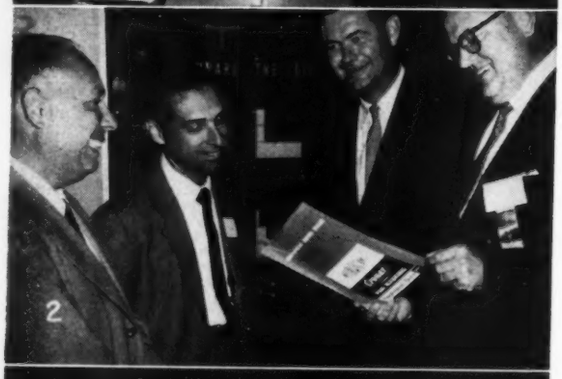
1—George Mattson, Web Offset Section, Printing Industry of America, Washington, D. C.; Vince Stafford, John Waldron Corp.

2—Harry Stoddard, American Type Founders Co.; Everett Lavender, president, Lavender Printing Co., Salem, Mass.

3—A. W. Polk, John Hancock Insurance Co., Boston; Bill Brazier, Bridgeport Engravers Supply Co.

4—C. H. Austin, manager, Graphic Arts Div., Ansco; Richard Trachy, president, Local No. 1, Amalgamated Lithographers of America, Springfield, Mass.

5—Michael Reinitz, Royal Zenith Corp.; Richard Kelley, general manager, and William Brady, jr., Brady Printing Inc., Lowell, Mass.



Among Those at NAPL Equipment Show

(All names read from left to right)

1—Hank Wiener and Cliff Callender, Strong Electric Co.; Morris A. Miller, manager, Graphic Arts Div., H. Lieber Co., Indianapolis, Ind.; Allen E. Smith, chief printing administrator, Eli Lilly & Co., Indianapolis, Ind.

2—William Frisch, president, and Robert Frisch, vice president, Wright Offset Plate Co., Cambridge, Mass.; Harlan Graham and Hugh Kurtz, E. I. du Pont de Nemours & Co.

3—Howard J. Watrous, vice president in charge of production, Argus-Greenwood, Inc., Albany, N. Y.; Joseph A. Hostetter and Edwin G. Forrest, Chemco Photoproducts Co.

4—George Kreyling and Alvin Reitz, Printing Ink Div., Interchemical Corp.; Albert Berliner, Anchor Chemical Co.

It For You, Stanley placed the responsibility for production improvements squarely upon managers.

He foresees a real need for improvement in companies of all sizes. Managers must take improvements out of the realm of uncertainty and manage them successfully. He named reasons why improvements fizzle out as workers are not interested and because people are habitually opposed to change.

Stanley said employers only use 50% of employees abilities. He cautioned that in selling people on an idea frequently sounds like criticism of the old method which they probably developed. The impulse of improvement, he added, must come from the top level of management.

According to one source, Stanley said, problems are only 10% technical and the remaining 90% are human. He said sometimes people won't improve on their present work habits because of fears and inhibitions. The are afraid improvement of their job will affect their earning. He compared this concept to a new belief expressed by an authority in this field. This source says, people like change and criticism if they make the suggestions and do the criticizing. The speaker concluded that employees must have the complete support of management in developing improvements in operations.

Tech Clinic Is Big Hit

One of the best attended NAPL convention sessions was the Saturday all-day technical clinic at which a variety of lithographic production problems were discussed. Participants included a panel of eight specialists drawn from the fields of research, camera, platemaking, press, ink and paper. Moderator of the program was William J. Stevens, Philadelphia manager, Miehle Printing Press & Mfg. Co.

The problem of picking on the second printing unit of a two-color offset press was one of the early topics submitted to the panel. John L. Kronenberg, manager, Lithographic and Label Paper Div., S. D. Warren Co., answered that the panel should know more about the kind of paper used and the form being run. He said the plant experiencing this trouble may be running letterpress paper rather than offset paper. Letterpress stock, he added, has a soft surface and can be run satisfactorily on a single color press, but rarely on a two-color press. He also mentioned that sometimes the ink on the second unit is too tacky. Michael H. Bruno, research manager, Lithographic Technical Foundation, Chicago, suggested the trouble may be the result of water transferred on the first printing unit. The water is responsible for loosening the fibers in the paper, he said, before the sheet enters the second printing unit.

One plant reported it has been plagued by plate scumming when running yellow ink. A panel member, L. J. Sigouin, research and development engineer, Courier Citizen Co., Boston, suggested this plant try decreasing the strength of the fountain solution. He advised proceeding very carefully, however. When changing something on the press a pressman usually wants to see a dramatic change quickly which isn't always possible. Sigouin also mentioned to be sure the plate is properly desensitized. Too much drier in the ink was listed as another cause of plate scumming.

Someone asked if Lestoil is a good product for cleaning dampener rollers. Bruno replied that it is one of the accepted detergents for this purpose. He reminded the person who asked the question that he must have a detergent to take off wet ink, and another to take off dry ink.

Is any hand color correcting needed when using three-color process? William F. Mason, Gravure Div., Forbes Lithograph Co., Boston, said in the process as originally conceived, it wasn't necessary to use hand correcting. He added, however, that a number of three-color processes have grown out of the original process in which hand correcting is now necessary. Bruno added that the customer frequently wants things that are not in the original, so it will have to be put in by hand.

The panel was asked which was better, a hand proof or regular production proof from offset plates. John H. White, general manager, Litco Offset Corp., Boston, was of the opinion that a production proof is far superior to hand proof if the the original positive was used to make the plate. He said sometimes a pressman cannot match a proof taken on a small press. There are many instances, he added, where many companies experience problems in matching proofs. Bruno advised making use of the LTF color chart when matching proofs on the press. What is needed, he said, is proper correlation between proving operation and the actual press run. "When you have something you can measure," he added, "then you can do something about correcting it." He also described it as an individual plant responsibility and mentioned that the offset printer should not care what other printers

Participants in the NAPL convention technical session. Seated, left to right: James Beldotti, plant superintendent, Rand Avery-Gordon Taylor, Inc., Boston; William Doherty, Rust Craft Greeting Card Co., Dedham, Mass.; Michael H. Bruno, research manager, Lithographic Technical Foundation, Chicago; William J. Stevens, Philadelphia manager, Miehle Printing Press & Mfg. Co. Standing: Vincent G. DeForge, Printing Ink Div., Interchemical Corp.; L. J. Sigouin, research and development engineer, Courier Citizen Co., Boston; John H. White, general manager, Litco Offset Corp., Boston; John L. Kronenberg, manager, Lithographic and Label Paper Div., S. D. Warren Co., Boston; William F. Mason, Gravure Div., Forbes Lithograph Co., Boston

Representative of Over 2000 Litho Printers Who Viewed NAPL Show

(All names read from left to right)

1—Frank Rittershofer, camera foreman, and Creston E. Ford, litho superintendent, Lord Baltimore Press, Baltimore, Md.; William Ritterpush, owner, Lincoln Lithoplate Co., Baltimore; Joseph Rauscher, preliminary department manager, Lord Baltimore Press; Gus Bowling, owner, Lincoln Lithoplate, pose with Powers Model Mary Peters of Boston.

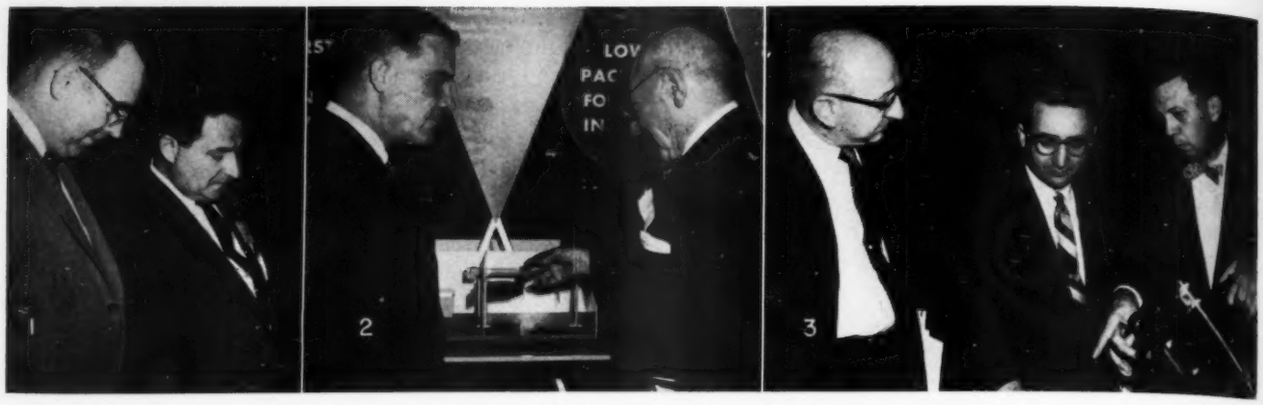
2—Larry Grennam, litho foreman, Printing Dept., Hartford Fire Insurance Co., Hartford, Conn.; Gene Mooers, Kenro Graphics, Inc.; Ralph Adcock, superintendent, Printing Dept. Hartford Fire Insurance Co., Hartford, Conn.

3—Neil M. McKirdy, vice president, Davidson & McKirdy Co., West Hartford, Conn.; A. G. E. Van der Tuuk, Amsterdam Continental Graphic Equipment Inc.; Russell Collins, Kee Lox Mfg. Co.

4—Garson Wolitzky, Ozalith Div., General Aniline & Film Corp.; Carl G. Stopper, pressroom foreman, and William E. Staudt, superintendent, Young & Klein, Inc., Cincinnati, O.

5—J. K. Thompson, vice president, and S. E. Thompson, president, Pine Tree Press, Ellerson, Va.; Henry Weisman, nuArc Company; Paul Mueller, president, Mueller Color Plate Co., Milwaukee, Wis.

6—Dexter McCausland, president, Portland Lithograph Co., Portland, Me.; Robert Altman, Minnesota Mining & Mfg. Co.



Photographed at the NAPL Equipment Exhibit Held in Boston

Left to right: 1—P. H. Dardenne, vice president, Marks & Fuller, Rochester, N. Y.; Joe Van Cata, W. A. Brown Mfg. Co. 2—Seawell Brandau, president, Brandau Craig Dickerson Co., Nashville, Tenn.; G. Walter Lieb, Lanston Monotype Co. 3—Ed Crane and Alan Dietch, Alan Dietch Printing Equipment Co.; Clarence H. Dye, Russell Ernest Baum, Inc.

are doing; it is his own problem.

The panel was also asked if an image can be pulled directly on a paper plate. It is possible if a special ink is used. One panel member thought an ink without any drier in it should be used.

What Size Camera?

Another question was: What size camera should we install for four 23 in. by 30 in. presses? Mason suggested this company should install a camera which would not only accommodate the present size of presses, but also should plan for future larger presses. This would indicate, he said, up to a 40 in. camera. Bruno took exception to this and mentioned that 31 in. cameras are standard in most plants. A 40 in. camera, he said, would be advised if the plant was producing large work. Moderator Stevens added that the plant should take into consideration the type of work being produced.

What causes a deep-etch copperized aluminum plate to go blind? William Doherty, Rust Craft Greeting Card Co., Dedham, Mass., thought that it may be the way the plate is handled on the press. He said if a plate is properly made there won't be any trouble. LTF's Bruno commented that one problem on deep-etch plates has been erratic blinding, especially in localized areas. This has been traced to the presence of iron in the deep-etch areas. LTF is now working, he reported, on means to eliminate this iron deposit, but is not ready yet to release information on its findings.

On two-color or four-color presses should ink be of different consistency to allow for trapping? Vincent G. DeForge, Printing Ink Div., Interchemical Corp., said it is the tack at the instant moment of printing that is important—not the tack in the fountain or on the rollers. Bruno agreed with this and suggested using a soft ink in the first printing unit and tackier inks in other units. He said they have found certain inks will not trap, such as chrome yellow.

Someone asked Bruno for his definition of trapping. Bruno said it is simply a matter of getting a third color by the mixture of two inks. Panel member James Beldotti, plant superintendent, Rand Avery-Gordon Taylor, Inc., Boston, defined it from the stripping department's viewpoint as meaning the overdraw of two colors.

Where To Add the Scent

Can perfume be added to paper rather than ink? The person who submitted this question said that the scent is not strong enough in the ink when applied to paper. Kronenberg said it would be necessary to add the perfume to the paper at the last moment before it is used. Bruno suggested putting the perfume in the press fountain. Beldotti said he uses a wet spray for applying perfume to a job. A member of the audience added that he sprays directly into the box the job is mailed in before sealing.

What is the largest paper plate made? Kronenberg replied these plates are available for 36 in. by 40 in. presses.

Panel members were asked for an opinion on three-color printing. Beldotti was of the opinion that a fourth color is needed for good lithographic printing. Bruno said the three-color process has made it easy for some plants to get into color work. He said the trend, however, is for plants to eventually go to four-color printing.

What causes paper to wrinkle 4 in. from the gripper edge and also 4 in. at the last or tail end of the sheet? Beldotti suggested it was probably tight edges in the stock which may happen in winter time when humidity in the plant is low. Kronenberg said in most instances it was because the paper has been left uncovered in the pressroom. He advised always keeping paper covered until ready to be used on the press.

Do cylinder suction brushes really clean loose lint from sheets? Kronenberg said he has seen it work well, but the particles on the sheet must be loose. He added that it was not the basic answer to the hicky problem.

One member of the audience asked if a hard or soft blanket is best. Bruno said the trend is to harder blankets, using smooth surface papers.

Offers Low Air Freight Rates

New low Blue Ribbon air freight rates for printing plates and electros are now in effect from New York, N. Y. and Chicago to 20 key cities in the United States, it was announced recently by Emery Air Freight Corp. The service includes pickup of cargo at the point of origin, supervised dispatch of the shipment and delivery.

Problems with Newspaper

Personnel

. . . How a personnel department can improve a plant's operation is explained in final part of this article.

By J. HAROLD MINTUN, *Production Mgr., Pittsburgh* Press

THERE has been an increasing awareness among newspaper production men of a definite need for organized newspaper personnel programs. Of 20 production men I questioned on the subject, some stated they would like to be relieved of administrative duties by a personnel department. Others hoped something might be developed that would improve the industry's manpower problems. The following suggestions take into account both these viewpoints.

During the past 10 years the so-called fringe benefits have come into the industry. The administration of these programs takes a lot of time and special know-how. It is a natural job for the personnel departments to handle all the details of administration and record keeping and the mechanical side welcomes personnel people taking these functions completely out of our departments.

The importance of screening new employees by tests and standard hiring procedures is great. Unfortunately, in most of our shops, it is impossible to screen and test at the journeyman level which makes it even more important that we do a good job on apprentices, copy boys and various other beginners. Only by careful selection at this new employee level can we hope to improve the quality of future journeymen.

Help in Selecting Foremen

The selection of foremen is a field in which we need definite scientific help. There is a lot of potential supervisory help right in our rooms if we knew how to select it. With the specialization now going on in the crafts, foremen selection is becoming even more difficult. We have been guilty of putting a pencil in a man's hand and calling him foreman. We need a procedure to test for emotional stability, psychological tests and general aptitude. Even these will not get us good foremen but will eliminate men we know can't meet the requirements.

There is a need, also, for foreman training. Very few newspapers make the effort to finish the job after the foreman is selected. The new supervisor should be trained in getting along with people and told on what broad principle he should base his spot decision. He should have a set of ground rules to help him over the spots not covered by hard and fast rules. He must know what you want and what you are trying to do. The only way to get uniformity is group meetings with key people. Far too many of the supervisory team on the mechanical side fly by the seat of their pants, not knowing what is expected of them. This can and must be corrected.

The matter of administering safety programs might be controversial but it is my opinion that safety should be administered by someone outside the department affected. Any good safety man can find many things in most plants that contribute to bad safety records that the man in the plant cannot see. A good service can be given both the worker and the supervisor by a third party.

One of the greatest contributions that can be made by personnel departments is the so-called "employee relations" program. Most of us have grown beyond the personal touch with each worker and we have to have something to take its place. The lack of communication between the average paper and its back shop employees is criminal. I have no pat answers to the problem, but a solution should be sought in the planning of a personnel program, both for worker happiness and product improvement.

What Is Not Wanted

I have been dwelling upon what we want personnel departments to do, but there are also several things we don't want them to do, things that have caused friction and outright dissension between the mechanical and personnel departments.

In the first place, the personnel function is a staff-type job. Let's keep it that way. Most of the complaints I received about personnel work was the tendency of personnel people to drift over into the line-type job and start trying to do things they were not set up to do. It is very hard to get anything done when you have no line authority. When you are forced to wheedle, cajole and plain lick boots to get your thinking accepted, it is very tempting to want the authority to tell the person to do it. All the mechanical department people I have talked with very definitely do not want to have another boss. They want more assistance, not direction.

In all the inter-departmental conflicts and labor conflicts, the mechanical supervisor wants to win once in a while. Use care in dealing with and be sure and consult the supervisor involved. Too many questions are harmless looking but create difficult operating hurdles. Whenever operating procedures are involved, never take it upon yourself to make a decision without honest discussion with the supervisors involved.

Finally, come down out of the Ivory Tower. Theory and the actual application of ideas are two separate and different things. Most supervisors of mechanical departments feel they are not understood by management.

When making negatives for powderless etching, engraving photographers will find it necessary to adjust their concepts of halftone negatives in order to make offset type negatives. There's no lateral reduction of printing image.

Making Negatives for

POWDERLESS ETCHING

Halftone photographer must be versatile

By ROBERT L. YINGER

SINCE the introduction of the Dow and other powderless etching processes, photographers have found changes must be made in the kind of negatives they have been making to conform to the new requirements. These new etching techniques have proved their worth in many ways; perhaps the most attractive aspect is the saving in etching time which permits increased productivity in the etching department. This saving, along with improved etch quality, has made these machines and techniques particularly attractive to photoengravers. Notwithstanding the high capital investment required, these machines are being installed to replace conventional etching equipment.

Photoengravers will find they must adjust their concepts of halftone negatives and make offset type negatives suited to the processes. This will not be a particularly easy transition. In some instances, it will result in confusion due to the double standards required in some

Metals For Rapid Etching

Magnesium metal lately has come into its own as a standard plate material along with copper, zinc and the newer fine-grain zinc alloys which have been especially formulated for rapid etching.

In some shops it will be the practice to etch one kind of metal by the Dow process while etching others by conventional methods using the powdering technique. It is now possible to etch halftones on magnesium, zinc alloy and copper by the rapid etch (powderless) methods. Line and combination plates can be etched successfully on zinc alloy and magnesium. Research is progressing under the auspices of Photoengravers Research, Inc. to find a way to etch combination work on copper.

Still another trend—plastic washout letterpress plates—will also require a tight halftone negative since re-etching is not possible with these plates. There are at present two kinds of plastic washout relief plates now available for the production of halftones—Collobloc and Film Klischee—both of which are manufactured abroad. Two other plastics of a somewhat different nature are being field tested in this country. These are the *Time* nylon plate and the Du Pont photopolymer plate. Both can be employed to produce line, combination and halftone plates.

Negative Requirements

It will be necessary to know and keep in mind the kind of negatives best suited for these methods. These new techniques are peculiar in that there is no lateral reduction of the print image. The image is held exactly as it appears on the print. Photoengravers will find this a radical departure from conventional practice in which the dot is purposely made larger than desired to allow for reduction in the etch as well as in the re-etch where the side wall shoulders are smoothed off for proper matting and electrotyping qualities.

As a result of these necessary requirements in conventional etching, one must start with a large dot (about 35% to 40%) and reduce this through lateral etching and re-etching to about a 10% dot in the highlights. This reduction of the image naturally affects all other tones down to the shadow dot.

Photoengravers have found through long experience the dot size demanded by the conditions existing in their particular plant. It is safe to say that few engravers can agree exactly on a standard for these negatives.

Zinc and magnesium, by conventional standards, require a different negative than that required for copper etching. As a result, the halftone photographer making negatives for photoengraving must be quite versatile and knowledgeable with respect to these differences. He now finds himself confronted with yet another kind of negative—one that will print an image on metal exactly as required on the final etched plate. This is not particularly difficult to do with respect to line negatives. A tight negative with good clear lines will do the trick. The trouble will be experienced when

making halftones. A dot percentage range from 10% in the highlights to about 90% in the shadows will be required.

Loss of Highlight Detail

It is a well known fact that high halftone negatives as required for these processes lose much of their highlight detail through diffraction of the screen grating. How to overcome this difficulty will be one of the primary considerations of the photographers. Research on this question has determined that a large lens opening tends to reduce the amount of diffraction and results in better highlight detail and modeling. As large a detail and highlight stop as possible should be used, consistent with the *f* range of the lens and the screen distance necessary.

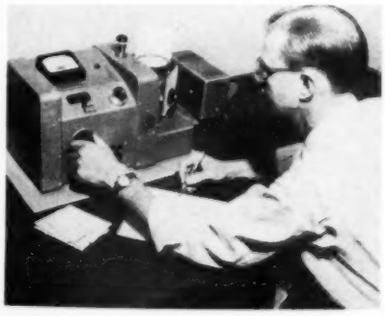
Dot density will be an important consideration since any trace of scum on the metal print will not permit the plate to etch properly; therefore, the dot must be quite hard and opaque. This may not be possible with coarse screens if a very large detail stop is employed. A bit of experimenting will be called for; although the finer screens are not as difficult or bothersome in this respect and dot density is not as much of a problem.

Variable Factors

The results of the researches of the Agfa Company published in 1956 in Germany are thorough and convincing and explain the many factors that affect the dot, tonal gradation and sharpness. Among these factors are screen distance, lens opening and screen line ratio (ratio of the width of the opaque space to the transparent space of the screen) and the size of the stop used for flashing.

These researches have shown that the image begins to lose sharpness and highlight detail as soon as the opaque dots of the negative begin to grow together or close. The photographer who has ever experimented with different screen-lens opening ratios will have observed that the dot can close in several ways. The closure can take the form of a pin-cushion, a square or a round conformation. If this touching of the black dots can be delayed as much as possible (by keeping the dot round) then it is possible to form a highlight dot without degrading the highlight detail.

By simply observing how the dots have closed, the quality of the negative can be judged. If the black dots forming the highlight dot have remained perfectly round as the highlight dot is formed, we can be fairly certian that good highlight detail and modeling will result. But if the black dots have closed or connected by bulging at their corners to form a square—or worse, a round highlight—then we know that detail certainly will be lost.



Conducts Color Tests—New York & Pennsylvania Co. is currently conducting tests with an electronic Color-Eye for spectrophotometric data at its Lock Haven, Pa. mill, it was announced recently. The instrument is said to combine tri-stimulus colorimetric with spectrophotometric measurements in the comparison of one sheet with another. It provides instantaneous numerical color readings under simulated daylight and Mazda light, and for both light and dark shades, reports New York & Penn.

Importance of Development Time

Development has an important bearing on the quality of the dot. Too long development produces a false dot, one that will print through and scum the print as well as killing shadow detail.

It is always good practice to adjust exposure to the standard development time as recommended for the film and developer being used. Stretching the development time and the life of the solution only invites trouble and is inconsistent with good practice.

Screen Distance Test

A simple method has been proposed to help determine the correct screen distance for the particular stop to be used for the detail exposure. The screen is placed in the holder out of line with the film. A wedge or small strip of wood is

(*Continued on Page* 100)

Photoengravers' Sparkling Program

In addition to business management problems, the October convention of the American Photoengravers Assoc. will consider technical and research subjects. The convention will be held at the Netherland Hilton Hotel, Cincinnati, O., on Oct. 13-15 inclusive.

Frank J. Schreiber, executive secretary of the association, reports this will be the most important meeting in the annals of photoengraving. The convention will act on *Integrated Research for Letterpress* and publication of a de luxe public relations book, present a seminar on *Powderless Etching of Copper* and the numerous new advances in photoengraving and letterpress printing.

In the 62 booths to be taken up by the exhibition of photoengravers' machinery, equipment and supplies will be viewed a display of new processes, procedures and equipment.

Some of the subjects to be talked about by speakers are: *Value of Research to the Industry*, by Louis P. Shannon, E. I. du Pont de Nemours & Co.; *Progress Report on Letterpress Research*, by C. M. Flint, Charles T. Main, Inc.

Making Dollars in the Darkroom is the subject assigned to A. J. Powers, jr., Chemco Photoproducts, Inc.; a panel with James W. Bradley, Bradley & Sons, Inc., as moderator, will discuss *Powderless Etching of Copper in All Its Ramifications.*

Seminar on the *Future of the Photoengraving Industry* will be moderated by George D. Beck, Beck Engraving Co., Philadelphia.

Other important subjects and speakers are: *A* 1958 *Look at Electronics in Engraving*, by J. A. V. Hyatt, Fairchild Graphic Equipment; *Use of Invisible Fluorescence in Negative Control*, Frank P. Adams; *Modern Stripping Technique for Modern Art*, R. D. Schulz; *Flexibility of Making Color Separations*, Robert T. Martin; Four *Color Process Engraving for Newspaper ROP Engraving*, Vandye J. Forrester, and *Up-to-date Developments in the Dow Powderless Etching Process*, by speaker from Dow Chemical Co.

Printing Industry Records Fewer

FAILURES

In Its Business Operations

By JAMES J. ETRO, *Dun & Bradstreet, Inc.*

IN the 12 months ending June 1, 1958, exactly 9961 out of every 10,000 operating printing and publishing business *did not* fail, according to a recent study of Dun & Bradstreet, Inc. The 39 out of every 10,000 who *did* fail represented the lowest failure rate among 14 selected major manufacturing lines for which rates were computed.

These failure rates are computed so that one industry can be compared to other industries and the national average for all manufacturers. To obtain this failure rate, Dun & Bradstreet computes how many businesses fail out of each 10,000 operating in a line.

The failure rate for all national manufacturer lines per 10,000 concerns during the 12 months ending June 1, 1958 is 84. The failure rate for the printing and publishing industry during the like period, per 10,000 concerns, is 39.

The above figures would seem to indicate that the printing and publishing industry is a lot better off than both the average manufacturer and manufacturers in some other lines. Yet, the 110 printing and publishing failures that occurred in 1957 caused more than $7 million in losses to creditors—and if you add up the dollar losses to creditors over the past 17 years, the dollar losses total over $59 million. So while in comparison to other manufacturers and the national average for all manufacturers (84) the failure rate of 39 for the printing and publishing industry indicates how good things are in the line, the creditors who were unable to collect the millions they lost through failures of printers and publishers would have good reason to disagree.

Let us look at the failure statistics for the printing industry in 1957. During 1957, 110 printers and publishers failed with liabilities of $7,385,000. Percentagewise this represented an increase of 8% in numbers compared to the 102 failures reported in 1956 and an increase of 13% in liabilities compared to 1956's liabilities of $6,525,000.

The 110 failures reported in 1957 was the third highest annual number of failures reported in the past 17 years—topped only by 173 failures in 1942 and 162 failures in 1941. Liabilities of $7,385,000 reported in 1957, however, represented an annual record all-time high for losses to creditors of the industry.

The average liability for each printer and publisher that failed in 1957 was $67,136—an increase of 5% as compared to 1956's average liability per failure of $63,971.

No Cause for Undue Alarm

This upward trend in failure statistics for the industry would seem to be continuing in 1958 based on tallies for the first five months of 1958. In that period, 57 printers and publishers failed with liabilities of $2,102,000, as compared to 42 failures with resultant liabilities of $1,319,000 for the first five months of 1957.

A breakdown of the failure statistics into special lines of the industry is shown in Table I.

The statistical figures shown in Tables I and II present a rather gloomy picture for the industry. However, one should be reminded at this point that the actual number of failures and resultant liabilities for the industry in 1957 represent only a very small per cent of the thousands of businesses and millions of dollars that are in the industry. The figures should not, therefore, suggest undue fright or lack of confidence in the industry.

Failures with Creditor Losses

It should be pointed out that the above figures include only printers and publishers that failed with losses to creditors. Not counted as commercial failures in Dun & Bradstreet statistics are those who liquidated voluntarily and paid whatever obligations were outstanding at the time they closed their doors. There is, of course, a great deal of such activity going on.

Below the relatively stable surface of a business population of approx. 4,200,000 firms in the U. S., some 350,000 to 400,000 firms discontinue business every year—only to be replaced by an equal or

TABLE I.

	Percentage Change 1956-1957		Average Liability Per Failure In 1957
	Number	Liabilities	
Newspaper publishers	— 36	— 79	$ 44,643
Periodical publishers	— 9	+151	207,700
Commercial job printers....	+ 10	+136	48,767
Lithographers	+138	+395	74,474

TABLE II.

	First Five Months 1958		First Five Months 1957	
	No.	Liabilities	No.	Liabilities
Newspaper publishers	2	$ 65,000	6	$419,000
Periodical publishers	5	84,000	2	136,000
Commercial job printers...	30	836,000	17	251,000
Lithographers	8	437,000	8	80,000

slightly higher number. Some of these businesses which go out of business do so with sizable losses to those who put up the money. But while they do not look upon themselves as having been a business success, we do not count them among the failures. Also not included in Dun & Bradstreet failure tabulations are transfers of ownership. Therefore, the failures discussed above are not necessarily the only printers and publishers who ceased operations in 1957—but they were the ones who did so at the expense of someone else.

What is Cause of Failure?

What is the cause of a business failure? One pattern has recurred consistently over the years in Dun & Bradstreet's studies into the causes of bankruptcies involving losses to creditors. A failure can be traced in most instances directly to a clearly identifiable human weakness on the part of the people running the business. This human failure may be in judgment, personality, decision or know-how. These weaknesses are always present in some portion of a business community. What is making them more costly now than ever before—and what is causing an increasing number of failures is: (1) Competitive pressures of an increasing number of concerns going into business; (2) Difficult and increasing cost-price squeeze in which all business is finding itself; (3) Ever changing patterns in consumer demand and corollary changes required in methods of doing business; and (4) Lack of competence in managerial capacity and judgment.

In its studies of the causes of failure, Dun & Bradstreet tries to get at the basic cause of each failure. To ascertain why the business failed, the Dun & Bradstreet reporter makes a final investigation when the failure is reported. During this investigation, the reporter will interview, whenever possible, a principal of the business. In addition, investigations are made with banks, suppliers, and other outside sources to help form an objective opinion as to the failure cause.

There are, of course, certain hazards and limitations in summarizing all the complex factors which cause the business to fail. Certain factors may be more accurately evaluated and judged by some reporters and the final analysis may contain some discrepancies. Also, the information needed to explain why a failure occurred may not always be available after the failure has occurred. However, when you add up the results of these investigations, a definite pattern of the causes of failure emerges and is well worth studying.

The number of printers and publishers that failed in 1957 is too small in itself to break down separately, but the study of the causes of failure among all manufacturers will indicate danger signals that printers and publishers may use to check their operations. This is the study of the causes of failure that Dun & Bradstreet did on the 2644 manufacturing failures, including printers and publishers, for the 12 months ended June 30, 1958, shown in Table III.

The figures as in Table III, however, account for only 6.4% or 169 of the 2644 manufacturing failures reported in the year ended June 30, 1958. But even if you say that these failures wer caused by circumstances beyond human control or Acts of God, some of these failures probably could have been prevented by proper insurance.

Dun & Bradstreet tried to get at the real cause of failure behind the other more than nine out of ten cases that could not be explained by obvious, outside circumstances.

TABLE III.—Underlying Failure Causes

Underlying Causes	No.	Per Cent	Apparent Causes	Per Cent	No.
Neglect	60	2.3	Poor health	1.7	44
			Bad habits	0.4	10
			Marital difficulties	0.1	3
			Other	0.1	3
Fraud	48	1.8	Irregular disposal of assets	1.4	38
			False financial statement	0.2	4
			Premeditated overbuy	0.0	1
			Other	0.2	5
Disaster	38	1.4	Fire	0.7	19
			Strike	0.2	6
			Flood	0.2	4
			Employees' fraud	0.1	3
			Other	0.2	6
Reason Unknown	23	0.9			

TABLE IV.

	Per Cent	No.
Incompetence	52.4	1,385
Unbalanced experience	17.3	457
Lack of managerial experience	12.8	338
Lack of experience in the line	11.1	295
Total	93.6	2,475

The figures are shown in Table IV.

In other words, the bulk of the failures would appear to be management failures.

This group was further analyzed by the surface cause, or the reasons given as excuses for the failure. More than one-half (57.1%) said it was because their sales were inadequate and another 14.5% blamed tough competition. Just 14.4% said it was because they couldn't collect the money owed them. Another 5.5% said it was inventory burden that forced them out of business. Heavy operating costs, said 7.8% put them out of business. Another 10.0% said their hand were tied by excessive fixed assets. A few, 0.4%, said their trouble was poor location.

Because some failures in this analysis were attributed to a combination of apparent causes the figures add up to slightly more than 93.6% of the failures analyzed.

Basic Problem of Failure

As we study the above picture, it is clear that the basic problem of failure is one of lack of management experience and ability. It goes without saying that a successful business does not just happen—it is the result of deliberately calculated and carefully followed policies. Businesses will not run themselves. They are merely reflections of the capabilities of the men behind them. A success doesn't just happen—neither does a failure.

The basic consideration in the success or failure of a business is the owner's ability, on a continuing year after year basis, to make wise decisions compatible with the economic times—to buy wisely, to sell only as much as he can afford to sell, and his own ability to grow with the business.

Part V of a series: *Economics of Labor Saving Machinery.* Proper selection and use of auxiliary equipment may mean difference between operating profit and loss.

The Economics of *Auxiliary Equipment* In the Printing Plant

By J. W. ROCKEFELLER, Jr., *J. W. Rockefeller, Jr., and Assoc.*

THE dictionary definition of auxiliary equipment is that which helps or assists other equipment. In our industry, the proper selection of such auxiliary equipment may well represent the difference between an operating profit and loss. At least one manufacturer of a printed specialty owes his success largely to the intelligent selection and efficient use of equipment of this description. (A number of these devices and mechanisms have been illustrated and described in this magazine.)

Perhaps the best known example of the advantage of auxiliary equipment in printing is that used for press pre-makeready. In the days of the large, slow flatbed press a delay in starting of as much as two hours might have meant the loss of but 2000 or 3000 impressions. As press speeds increased, the cost of non-running time, including makeready time became more costly in terms of impressions lost. Gauges for checking height of form and precision proof presses came into use to save the time of presses representing an investment 10 times as great.

What pre-makeready was doing for the press, Teletypesetting did for the linecasting machine. An inexpensive puncher eliminated much of the lost time of the linecasting machine itself and in some instances enabled machine and operator to do the work of two.

Production Aids

In addition to equipment such as pre-makeready and Teletypesetter there are devices the use of which bears less directly upon the production of other equipment but which can nevertheless substantially increase it. Such equipment includes working height lifts, which will eliminate much of the back breaking stooping over of the cutter operator. In this class also would fall the Skid Lift (Southworth Machine Co.) and the Lowerator (Amer. Mach. & Foundry).

While such a machine as the electronic sheet counter hardly fills the definition of auxiliary equipment, it has, in some instances, increased the production of cutter operators (who were also hand counting!) by as much as 1000%.

Improving Quality

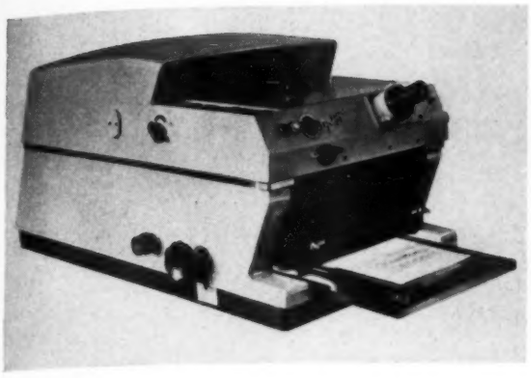
In addition to auxiliary equipment, the aim of which tis to increase production, other instruments are utilized to improve quality. Such devices may range all the way from a low power lens for the examination of the printed product, to the most elaborate electric eye control for maintaining color register on a press costing $2 million. On rewind web presses where it is not possible to remove a sheet from the delivery for periodic examination it may be possible to use a stroboscope which, in effect, is almost a motion picture machine in reverse, the motion picture machine producing the illusion of motion and the stroboscope making a web in motion appear to stand still. Both illusions are effective because of the inability of the human eye to detect a sufficiently rapid change.

Where the change is not sufficiently rapid i.e., where the pattern does not repeat at sufficiently short time intervals, the stroboscope is inoperative. A device has been designed to take up at speeds where the stroboscope leaves off. This is the Scan-a-web (National Laboratories & Mfg. Corp.). Utilized is a series of mirrors mounted axially upon a shaft and synchronized with the web speed of the press. The web speed may be considerably less than the minimum required for stroboscope operation.

Increasing Production

In any program aimed at increased production, whether this is to be brought about by the use of auxiliary equipment, or by other means, it is necessary to measure. It might be stated briefly that any such endeavor consists principally in measuring, analyzing and comparing. Devices to aid in this undertaking might well fall into the broader concept of auxiliary equipment since, although their aid to other equipment may be neither ob-

(*Continued on Page 68*)



Automatic justification of unjustified type or typewritten lines can be accomplished on the Optype machine. The machine will also produce type in extended or condensed form, as well as roman and italics.

Machine Justifies Unjustified Lines

A machine designed to accomplish photojustification of unjustified type or typewritten lines has been announced by Consolidated International Equipment & Supply Co. The company reports the machine, called the Optype, can produce up to 86 type variations from a single typewritten copy. End product is used for photomechanical reproduction.

The Optype has built into its optical system a photographic principle of copying lines of type, justifying the right hand margin and enabling the width of each character to be varied without changing its height, simultaneously reducing to one of 10 different type sizes. It is reported the machine will compose at speeds up to 16 lines per min. The Optype will handle any type proof or printed material.

Spacing between each line and the next can be varied. Any lines containing typing errors can be skipped and a corrected line photocomposed in the machine. The optical system also produces type in extended or condensed form, as well as roman and italics. End product of the machine is exposed film or paper which, after developed, can be used for making lithographic plates or pasteups in copy preparation.

The Optype machine utilizes the photographic principle of copying line for line. The spacing between lines is adjustable to fit the copy area. Operation is said to require no special skill. Operator views the line in the viewing glass which shows the amount of justification required and, by turning a knob, expands or contracts the line of type for a uniform right hand margin. Reductions are pre-calibrated on a dial indicator. Each line, as it is being photographed, can be viewed on a ground glass surface so operator sees the line before it is actually photographed.

The film and paper holder holds the film in correct optical position and all operations can be done under room lighting. The film or paper holder is removed from the machine for developing and drying.

Conversion of typelines to italics is accomplished by flipping a switch. Preparation of the original copy can be done on standard or electric typewriters, and any phototypesetting machine. For more details, circle No. 267 on Reader Service Card.

Phototypesetting Report Has Been Issued by ANPA

An informative 8 p. bulletin entitled *Photocomposition—How and Where It Is Used,* has been published by the Mechanical Dept. of the American Newspaper Publishers Assoc. It is shown that 19 newspapers currently are employing phototypesetting and photomechanical production. Practically all are using the method for advertising composition while 12 use it for text.

Equipment used and operations are broken down.

i

Plus de cinq milliards de livres sont imprimés annuellement de par le monde, mais si important que paraisse ce chiffre, il représente seulement deux livres par personne et par an. ixx

Ces faits étonnants sont révélés par un ouvrage récemment publié par l'Unesco, "Le Livre dans le monde", par R.E. Barker, secrétaire adjoint de la Publishers Association de Grande-Bretagne, que l'Unesco avait chargé d'effectuer une enquête sur les problèmes du marché mondial du livre. i

De vastes régions du globe souffrent d'une pénurie de ressources techniques d'impression et d'édition, difficultés aggravées par des obstacles, tendus aux frontières nationales, qui handicapent la pleine et libre production et circulation des livres. Ces difficultés comprennent des restrictions sur les devises, des tarifs inadéquats, une protection de copyright insuffisante, des traductions trop peu nombreuses, des prix de transport trop élevés. i

Original typewritten copy produced on typewriter with uneven right hand margin. Copy is ready for processing on Optype machine (see below).

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Film negative with right hand margin justified automatically on Optype machine, line by line, by means of built in optical system.

ROP Color, TTS and Cold Type Are Discussed at Pacific Conference

Cost of photoset and hot metal type approx. equal in one plant—ROP session lively • By F. J. MOYER, Sr.

PREDOMINANTLY, ROP color, newspaper TTS operation and phototypesetting occupied attention of those attending the Pacific Newspaper Mechanical Conference meeting, Sept. 5-7, at Mark Hopkins Hotel, San Francisco, Calif. Over 700 people interested in one or another attended. There were 36 exhibit booths of equipment and supplies.

Conference President John Bonato (San Francisco, Calif. *Chronicle*) welcomed the mechanical executives in attendance. He was followed by Harry Davidson, conference chairman, of the San Francisco (Calif.) *Call-Bulletin*, who presented highlights of the conference.

Advertising and Color

Local and national advertising and ROP color were discussed at the Advertising and Color Clinic. The Pacific Conference has endeavored for some time to get to the bottom of all difficulties arising among newspaper production men and the local retail stores and national agencies.

At the 1957 conference a committee was appointed to formulate a plan by which these problems could be solved. This ROP Betterment committee is made up of six members, and had a good report on progress this year and is to be continued to the 1959 meeting.

Glen Hutchinson, Los Angeles *Times* and *Mirror-News*, was chairman of the Local Advertising clinic.

Advertising Problems was the subject of a talk by Wallace Smith, Adv. Dir., The White House. Warren Jorgenson, Adv. Dir., Safeway Stores, Inc., spoke on *Food Store Advertising.*

A lively discussion and many questions were asked following the talks.

Gerry Burke, San Diego (Calif.) *Union-Tribune,* was chairman of the National Advertising clinic. *Both Sides of the National Advertising Picture* was given by Ingraham Read, vice president, Moloney, Regan & Schmitt, Inc. N. B. Cole, production manager, Batten, Barton, Durstine & Osborn, reported for the committee on *ROP Color Betterment.*

Production Manual

Cole made a thorough report. He discussed the many difficulties of color printing brought about by the many kinds of equipment and inks. It is the aim of this committee to produce an *Agency-Newspaper Production Manual,* the chapters of which will be:

(1) *Typical Printing Operations of a Newspaper.*
(2) *Material Required from Agencies.*
(3) *Sizes of Material for Different Makeup.*
(4) *Suggested Preparation of Black and One or Two Color Ads.*
(5) *Color Process Ads*—To include preferred types of material, proof and progressive proof requirements.
(6) *Ink Problems.*
(7) *Liaison Between Agency and Newspaper Production Departments.*
(8) *Quality Control.*
(9) *Glossary or Terminology Reference Index.*

Teletypesetter Operation

Fred Moyer, jr., Portland (Ore.) *Oregonian,* spoke on TTS operation. He said: "After 18 months of TTS operation it seems to me the main problem is you, me and management. *We* are the problem — not TTS. We must consider TTS a form of automation. For the sake of economy do not try to alter TTS to meet your present demands—it will only

Pacific Mechanical Conference Officers for 1959—Seated, l. to r.: Second Vice Pres. Charles Gallagher, Los Angeles; President Gerry Burke, San Diego, Calif.; Secretary Fred Moyer, sr., Bell, Calif., all of Southern Div.

Standing, l. to r.: First Vice Pres. Harry Davidson, San Francisco, Calif.; Second Vice Pres. Howard Fitzsimmons, Monterey, Calif., Central Div.; Second Vice Pres. Fred Moyer, jr., Portland, Ore., and First Vice Pres. Ernest Loebner, Olympia, Wash., Northern Div.; Secretary Edward Maggi, San Francisco, Central Div.; Secretary Donald Newhouse, Portland, Ore., Northern Div.

The old champ . . .

with a NEW PUNCH!

The longtime champion of the composing room—the Model 5 Linotype—has been re-engineered to give you new speed and new smoothness. With its new features comes a new name: The METEOR Linotype.

The new METEOR, cruising at 10 lines per minute, is *the* single-magazine machine for highest production, top efficiency and low maintenance.

Find out how the new METEOR 5 can improve *your* composing room operations. Your Linotype Production Engineer will be glad to tell you about it. Or write to Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, N. Y.

MODEL 5 METEOR • **LINOTYPE** •

The first Model 5 was introduced in 1906. Any machine that's been a leader since Teddy Roosevelt's day must be plenty good. Constant changes have improved the 5 immeasurably since 1906; today's improvements make it the most reliable, efficient one ever.

For More Information Circle 116 on Reader Service Card

result in poor production and costly loss of time. Instead, review your present system, your copy flow, your use of special characters in classified and many other similar things you do now—this is your problem. The answer is not easy to come by.

"People just naturally resist change. You will find the various departments concerned will have many good reasons why they cannot give up stars, odd fractions, etc. They will tell you they cannot make news just to keep you in copy. But if you try hard, gradually you get one after another straightened out and your TTS production increases, bottlenecks iron out and the operation begins to run smooth.

"The year and a half of use of the TTS on the *Oregonian* has proved we can save hours, steps, floor space and machines. We do not claim our operation as any model since there are many users of TTS that out produce us but we are satisfied that TTS is for us.

"We have nine standard perforators and 14 perforator situations. Eight perforators represent the maximum working at one time. We use no wire tape. We perforate all copy. Our requirements are 220,000 lines of type per week. We perforate better than two-thirds of this or 160,000 lines weekly. This is made up of 9 pt. (one and two col.), 5½ pt. (10 and 11 picas), 10 pt. (10 and 16 picas). All our matrices are on the unit basis. We set box scores, markets, half column cut runarounds, in fact most anything. We use four transmitters and four perforators only to close editions.

"Our perforators work not more than five steps away from the copy desk. They send completed copy and tape to the casting machines by a conveyor when they get up to get new copy. We use colored clothes pins to identify our copy. Red is hot, green is next edition and yellow is advance copy. The foreman can see at a glance just what kind of copy is on the rail. He can also see what each perforator is working on as the clothes pins are used as colored flags showing above the booths.

"We have seven casting machines —six run at ten lines with alternate molds. One runs at eight lines with non-alternating, six mold disk. Six are equipped with tape operated quadders which are certainly needed to set classified. We use at the peak periods two monitors when we have more than four perforator operators working. Frequently one monitor operates four and five machines. The dumping of type is a problem. We will have to completely change our layout to get casters closer to the dump or install roller conveyors.

"We keep close and accurate production records. These show our perforators are averaging between 375 and 450 lines per hr. In a 35 hr. week they will total out 10,000 to 13,000 actual lines set. When we put our figures on a shift basis, including the monitor time, our perforator operators are averaging in excess of 500 more lines set per shift than our manual operators' projected average."

"Comes Close to Driving You Nuts"

"It is my opinion that we should look at Teletypesetter operation carefully and closely, because, if properly used, it will certainly out-produce manual operation, save space, equipment and labor. TTS and its automation, like all automation, at times crosses its wires, blows its fuses and comes as close to driving you nuts as anything I know of." So reported Composing Supt. Fred Moyer, Jr., Portland (Ore.) *Oregonian*, before Pacific Mechanical Conference, after 18 months of TTS operation.

Phototypesetting

John Rush, San Diego (Calif.) *Union* and *Tribune*, told of photocomposition as performed in his plant. (See separate article below.)

Compares Photoset with Hot Metal Type To Obtain Comparative Cost Picture

By JOHN RUSH, *San Diego (Calif.)* Union *and* Tribune. *Abstract of address delivered before Pacific Mechanical Conference.*

THERE are approx. 31 daily newspapers in this country using phototypesetting in the production of display advertising and miscellaneous typography.

Reports from various sources indicate considerable variance in productive efficiency between users. Production seems to range from 10 in. per man-hr. to 20 in. per man-hr. The productive efficiency in any of these newspaper plants is determined by numerous factors which vary according to local conditions, equipment employed, and plant operating procedures. Such factors would also include variations in copy and layout preparation, advertising deadlines, customer alterations, engraving service, and attitudes and craftsmanship of personnel.

Costs Within Same Plant

Because of these variables the best comparison of productive efficiency is not between newspapers, but between cold type and hot type operations within the same newspaper plant. If newspaper *A* produces 10 in. of display advertising per man-hr. with photocomposition, and newspaper *B* produces 15 in. per man-hr. with the same process, this only proves that newspaper *B* has a better operation. It does not prove the productive efficiency of the cold type process. But if newspaper *A* produces 10 in. per man-hr. by hot type and 15 in. per man-hr. in cold type, one can be sure that photocomposition in this case has improved production.

Equipment Used

The *Union-Tribune* has been using photocomposition in production for approx. two years. We use two Fotosetters for typesetting up through 36 pt., and the larger sizes of type are composed on a Filmotype machine which does the same job for cold type that the Ludlow

(Continued on Page 95)

...and here's the MAGNACRAFT line!

HIGH SPEED PERIODICAL TIP-ON, WRAPPING AND LABELING MACHINES

SR-1 TIPPING MACHINE

Applies tip-ons at speeds up to 7,000 per hour. Only one operator needed. Dead-on accuracy always. Handles tip-ons up to 12"x18". Also available in a 3-pocket model that tips to both sides of signature in one operation.

PERFECT REGISTRATION

POSITIVE FEED

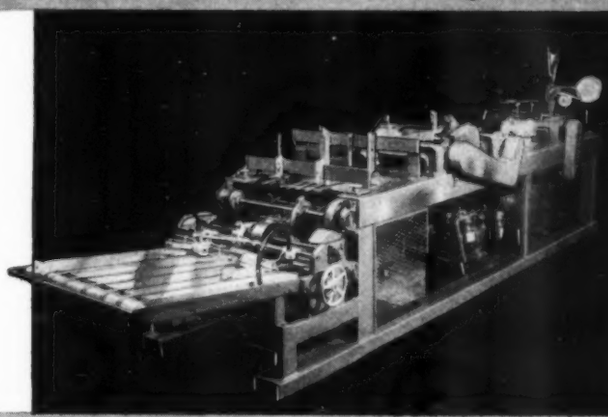
TIP-ONS 12"x18"

SIMPLE ADJUSTMENTS

ONLY ONE OPERATOR

MODEL E WRAPPING MACHINE

Wraps and/or labels magazines (Flat-wrap, Fold-wrap or Band-wrap) at high speed, uniformly tight and neat with label accurately placed. Will label single sheets; or wrapped or unwrapped magazines up to 1¼" thickness. Compact (12'x3') . . . easy to set up and operate. Larger, faster models available.



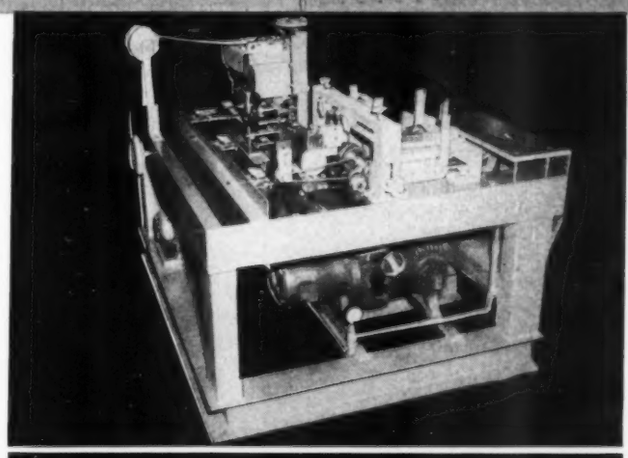
FLAT-WRAP

FOLD-WRAP

BAND-WRAP

ROTARY LABELING MACHINE

An extra-high speed, high production rotary cross feed labeling unit. Capable of top-precision performance at speeds up to 18,000 per hour. Equipped with dual-purpose labeling heads for handling either or both electronic and standard strips. Also available with straight feed; or with both cross and straight feeds.



HIGH SPEED

PERFECT LABEL ALIGNMENT

•

ASK US for details on any or all of these cost-cutting units. No obligation. Write today.

T.W.&C.B. SHERIDAN CO.

SINCE 1835

Branch Offices

For More Information Circle 157 on Reader Service Card

Auxiliary Equipment

(Continued from Page 62)

vious or direct, it is, in the long run, their general purpose.

Measuring Production Rates

Production rates are measured, of course, in production units divided by time units; feet per minute, impressions per hour or some similar unit. Time measuring means such as the ordinary stop watch are necessary for short periods, or the clock for longer ones. The production is measured by counting the feet of web or printer impressions, ordinarily by mechanical means. At the end of the day it is possible to arrive at the average rate of production over a day's time. This in itself is useful information but hardly sufficiently detailed to be helpful in any program aimed at increasing production and reducing costs. A low average production rate may result from a low running speed or in spite of a high running speed where frequent or prolonged down time periods are encountered.

For the sake of analysis and comparison it is desirable not only to know how many impressions were produced over a day's time but also the total running time during which these impressions were produced. The total running time could be determined as the playing time is measured during a football game, by stopping the clock when the press is not running. This would yield more information than merely the average production of the press over stopped and running time. But it would not tell the frequency or duration of the stops, information extremely important in any production analysis.

Recording Devices

There are fortunately, automatic means for recording the running and stopped time of a machine. One such is fastened to the machine under observation and a waxed chart accessible only by unlocking the chart compartment is marked by a stylus. The chart runs for three 24 hr. days and a record is made.

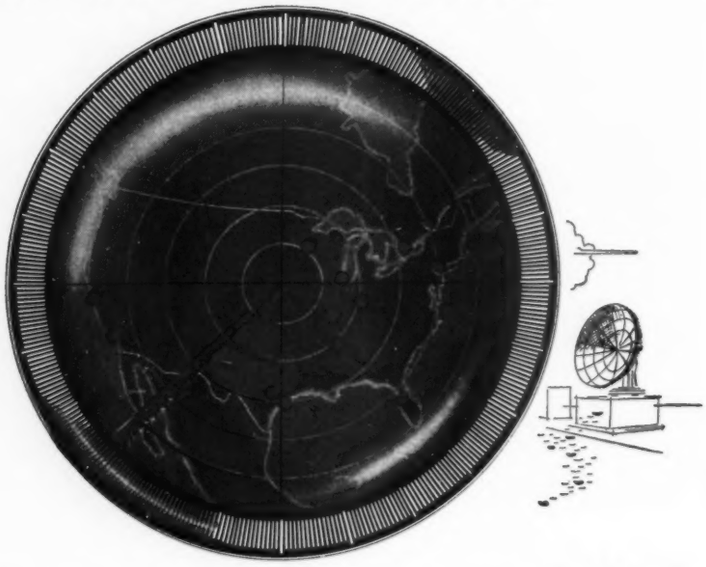
While this device accomplishes its purpose, we have invariably found it to possess an outstanding disadvantage. Whenever we have placed such a recorder on a press for the purpose of analyzing production, production has increased by from 10% to 20%, thus altering the condition which we were attempting to study.

A remote recording device, not afflicted with the same shortcomings is manufactured inexpensively by the Standard Instrument Corporation and is widely used in industry. The printing industry is represented in its imposing list of users.

As the cost of equipment steadily mounts and as the production potential increases, it becomes imperative to realize this potential. A $200 proof press may be the means of increasing by 10% the output of a check press. A $45 expenditure for recording equipment may be the first step in a program to improve the production of a $200 thousand forms press. If costs are to be kept down it is necessary to keep equipment operating at top speed and to maintain quality.

(To Be Continued)

BLANKET AND DRAWSHEET SERVICE



when and where you want it...

from centrally located Tingue, Brown offices

When you have packing problems, call your Tingue, Brown man. Offices in key cities across the nation assure you of prompt service.

Tingue, Brown has served the blanket and drawsheet needs of the printing industry since 1902. When you need the finest in printing blankets and drawsheets ... and service, too ... there is a Tingue, Brown representative close by. Write or call (collect, of course) the office nearest you for prompt, experienced service.

TINGUE, BROWN & CO.

"Blanketeers Since 1902"

1765 Carter Avenue • New York 57, N. Y. • CYpress 9-8800
507 Bishop Street, N.W. • Atlanta 13, Ga. • TRinity 4-3864
1227 Wabash Avenue • Chicago 5, Ill. • HArrison 7-0083
723 E. Washington Blvd. • Los Angeles 21, Cal. • RIchmond 9-6023

TINGUE PRINTING PRESS BLANKETS

CANADIAN SALES AGENTS **ROSS WHITEHEAD & CO. LTD.** MONTREAL, CANADA

For More Information Circle 173 on Reader Service Card

Most complete line of press blankets anywhere!

You can choose from more than 20 combinations in Reeves' Vulcan line of press blankets. Manufactured under strict quality control standards, there's a Vulcan combination engineered for *any* press, *any* speed, *any* print requirement. Vulcan packings meet every need for black-and-white and color, and for precision reproduction of halftones, solids, and small-type areas.

With offset blankets too, Vulcan has a different grade to meet every requirement. The new line of DUROFYNE blankets added to the present four DUROFLEX grades, gives Vulcan the largest selection of offset blankets in the world! A handy new offset blanket selector helps you choose the right blanket for every job. It's yours FREE . . . just fill in coupon shown at right.

Whether it's newspaper blankets or offset blankets, Vulcan has a specific grade specifically designed to do each specific job *best. For higher print standards, longer mileage,* and *bigger savings,* always specify Reeves' Vulcan blankets.

REEVES VULCAN

RUBBER PRODUCT

Reeves Brothers, Inc., Vulcan Rubber Products Div.
1071 Avenue of the Americas, New York 18, N. Y.

Get your FREE offset blanket selector. Helps you choose the right offset blanket for every job.

Dept. OB–1
REEVES BROTHERS, INC.
1071 Avenue of the Americas
New York 18, N. Y.

Please send me a FREE offset blanket selector

Name_____ Title_____

Company_____

City_____ State_____

For More Information Circle 195 on Reader Service Card

EQUIPMENT & SUPPLIES

If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Production's* Reader Service Card to be found in this issue.

Inductrol Voltage Regulators Claimed Not Affected by Load Changes

G-E's Inductrol voltage regulators are not affected by changes in load power factor, supply power frequency or load, states General Electric Co. Units are of dry type construction and are available in standard ratings up to 600 V., 240 kva, single phase, and 600 V., 720 kva, three phase. Special Inductrol regu-

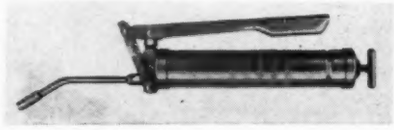
lators are offered for higher voltages and circuit capacities. Inductrols operate on stepless induction principle and are said to introduce no harmful wave form distortion. Units hold output voltage to within ± 1% bandwidth and will withstand 25 times normal short circuit current and up to 100% overload for 1 hr., reports G-E. Circle No. 279 on Reader Service Card.

3M Lithographer's Tape With Increased Opacity

A lithographer's tape claimed to feature increased opacity to light and built-in transparency for ease in positioning and accuracy of trimming has been introduced by Minnesota Mining and Mfg Co. Called Scotch brand No. 616, tape is furnished with a 0.0025 in. red tinted Paklon film backing which reduces shadowing by bringing the negative into closer contact with the vacuum frame, reports 3M. Backing will resist chemical and atmospheric action. According to 3M, it is waterproof and dimensionally stable, and it offers a high degree of opaqueness even to orthochromatic film at many times normal exposure. Transparent adhesive is said to be especially formulated for long aging and resistance to oozing. Circle No. 260 on Reader Service Card.

K-P Announces Grease Gun That Loads Three Ways

A grease gun that can be loaded from a dispenser, with a cartridge, or by hand methods has been announced by K-P Manufacturing Co. The Model No. C-1080 E-Z multi-load grease gun is said to develop up to 8000 lbs. pressure. It is equipped with a plunger which automatically sizes itself for either cartridge



or regular barrel and will not leak grease. A safety lock on the top cap of plunger rod prevents accidental release of the plunger and rod while loading and a sealing ring prohibits by-passing of grease when filled by a dispenser, states K-P. Gun is also furnished with a large pressure piston which displaces fibrous grease, an automatic handle stop which prevents bending of piston, and a multiple duty hi-tension spring. Circle No. 264 on Reader Service Card.

Qualities Claimed for Nylon Impregnated Paper

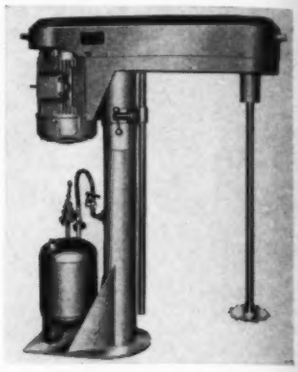
Developed especially for applications requiring excellent wet strength and abrasion resistance, Knowlton Brothers' grade 538 nylon impregnated paper is claimed not to be affected by acetone and many other chemicals.

Heat and pressure can be applied to the paper to yield a very smooth finish and the paper still retains porosity. Water permeability of the unpressed paper is 21 cc. in 1 min. through a 2 in. diam. circle and under a head of 2 in. After pressing at 250 lbs. p.s.i. at 240 deg. F. for 2 min., the water permeability is 12 cc's.

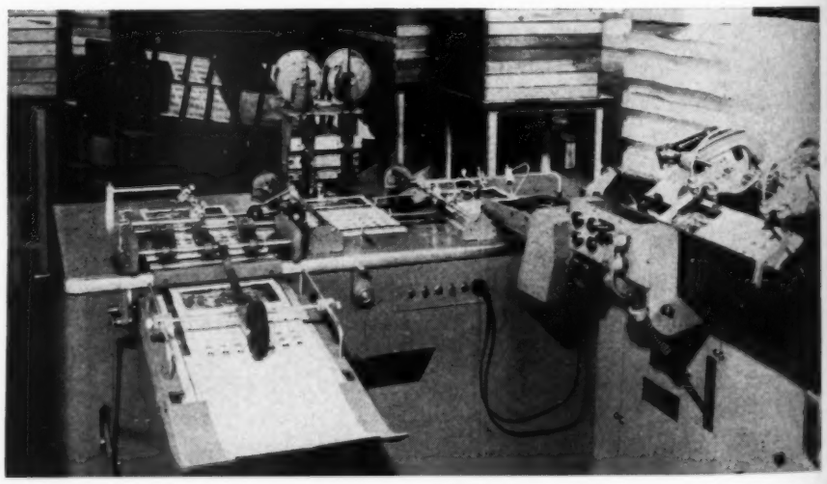
The paper's exceptional resistance to abrasion is maintained in both wet and dry applications. Tensile strength of a 1 in. strip before pressing is 58 crosswise and 88 lengthwise. After pressing, tensile is 92 crosswise and 118 lengthwise. Available in widths up to 60 in. Circle No. 261 on Reader Service Card.

Cowles Introduces Dissolver For High Speed Mixing of Batches

Development of a new Cowles dissolver for high speed mixing of batches from 50 gal. to 200 gal. has been announced by Cowles Dissolver Co. The unit, Model 510-VH, can be used for ultimate dispersion, dissolving, emulsify-



ing and deagglomerating in processing solid liquid, liquid liquid, or gas liquid materials of up to 50,000 centipoises. While in operation, the assembly can be raised by hydraulic lift. Minimum height is 69½ in., maximum height is 111½ in. Shaft speeds of 890 rpm, 1135 rpm, 1509 rpm, 1750 rpm and 2040 rpm can be attained by use of interchangeable sheaves on the V-belt drive. The bridge



Calendar Stitching Unit—A method of automatically assembling and stitching multiple sheet work, such as calendars, has been developed by Macey Company, Sub. Harris-Intertype Corp. It is claimed Macey calendar stitching unit eliminates hand gathering, pad gluing, and knife separating. As shown in picture, sheets are essembled on the collator (right), automatically fed to stitcher, (left), and conveyed to the delivery tray. Unit delivers 12 or 13 sheet calendars at rated speeds up to 3000 sets an hr. According to Macey, it collates, automatically jogs, and head stitches 5 in. by 8 in. to 12 in. by 17 in. material so accurately that final trimming before tinning is not necessary. Stitcher can be adjusted to stitch from ⅛ in. to 1¾ in. from top of calendar. Circle No. 271 on Reader Service Card.

Be sure to see the new ATF Typesetter...

designed for easy, low-cost text and tabular composition!

This new photomechanical system economically handles quality composition for jobs requiring text or tabular matter. End product is film or photographic paper ready for direct use in making offset, letterpress, or gravure plates.

Copy is typed **just once** on the Keyboard Unit, which produces a perforated tape with justification coded in. A typewritten proof is turned out at the same time.

The perforated tape **automatically** operates the Photographic Unit, turning out either a transparent positive on film or a positive on photographic paper.

Film or paper—with type image transferred from type disc—is developed, using standard chemicals and supplies.

That's all there is to it. With the ATF Typesetter, you eliminate these time consuming, costly operations:

- double typing for justification
- camera work

And here are some special ATF Typesetter advantages:

Speed. Keyboard Unit speed depends on typist's skill. A good operator, working from clean copy, can type at rate of 215 characters per minute. Photographic Unit operates at speed of approximately 200 characters per minute.

Type Sizes and Line Width. Type available from 5 pt. to 12 pt. Line width up to 7½".

Variety of Type Faces. Each disc contains two fonts of type in one type size. Discs can be changed in a matter of seconds. A wide range of faces especially suited for general commercial work is now available, and many more are being prepared.

No Installation Costs. The ATF Typesetter is ready for production just as soon as it is uncrated and plugged into any standard electrical outlet. No special wiring needed.

Corrections. Can be easily and quickly made at every step in the process.

Minimum Service. Normal use and care give trouble-free operation, without the need for frequent maintenance and repair.

Space. The ATF Typesetter is compact and space saving—occupies about the same space as two standard typewriters. And the two unit construction makes for easy fitting into present set ups.

But you have to **see** the ATF Typesetter to appreciate it. Units are now on display all over the country. Make your reservations now to inspect this latest development in photocomposition. As soon as your request is received, your local ATF Representative will send you details about time and place.

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COMPANY _____

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No matter what the bindery job . . . folding, inserting, gathering, stitching, trimming or hard binding . . . there is a Dexter machine designed to do it.

And Dexter means dependability. For through the years, our successful progress has been based on specializing in the development of bindery equipment. This experience stands behind every Dexter machine and every Dexter representative. It is your assurance of good equipment and good service.

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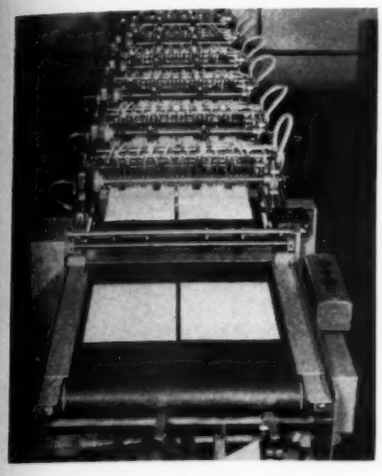
is constructed to swing in a 180 deg. arc and may be locked in any lateral position or height. Unit operates on 7½ h.p., 10 h.p. or 15 h.p. Circle No. 278 on Reader Service Card.

Speed-Klect Collator Features Dual Stream Operation

The Speed-Klect dual stream collator which, it is claimed, will automatically gather and glue in a double stream with micromatic accuracy has been announced by Didde-Glaser, Inc. Unit is recommended for either straight collating or gathering and gluing single sheets, sections or signatures in a double stream or single stream flow. The same job may be dual streamed side by side or two different jobs run simultaneously on each

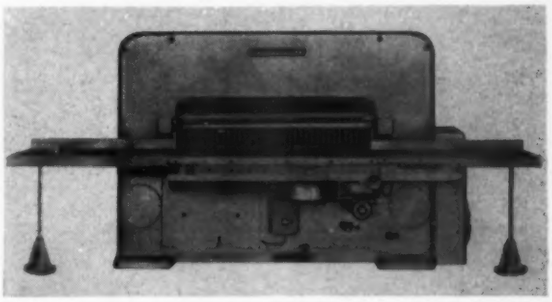


stream, reports sponsor. Collator will handle stock sizes from 5 in. by 3 in. to 9 in. by 12 in. dual stream, or sizes up to 18 in. by 12 in. single stream. It is claimed six station model will automatically make up to 60,000 pickups per hr. and each station is equipped with two micromatic detectors which eliminate the possibility of misses or doubles. Almost any stock, including single sheets of carbon paper, onion skin, bond stock, ledger stock, tag board and section or signatures up to 0.0436 in. thickness may be handled. Pick up and sheet separation are said to be positive. Each station is furnished with two loading tables to handle separate stack of the same or varying weights and sizes of stock. Circle No. 269 on Reader Service Card.

Vulcanized Fibre Material For Reusable Printed Items

National Vulcanized Fibre Co. has introduced its white vulcanized fibre printing material said to be durable enough to withstand the repeated handling of credit cards, gate passes, identification tags and other reusable printed items. It is claimed material provides a good printing surface for lithographic printing and will also accept ink signatures of pass owners. According to sponsor, the fibre can be punched without feather-edging that would cause pass recorders to misfunction. Material is said to be rigid and will not bend or break. It is 0.020 in. thick. Circle No. 281 on Reader Service Card.

Electronic Spacing Cutter—The RPM Teletronic spacer paper cutter said to operate automatically with predetermined spacings for the entire sheet has been announced by Consolidated Intl. Equipment and Supply Co. Machine is equipped with an eight channel memory unit enabling different jobs to go through at one time. The



memory circuits are numbered from one to eight and various jobs are programmed in this unit. By pushing a button on the miniature console at right of operator, the sheet cutting is selected. Machine automatically moves the pile, trims the four sides and goes through the entire cutting schedule at 32 or more cuts per min., states sponsor. To remove cutting schedule, operator pushes the erase button. Circle No. 277 on Reader Service Card.

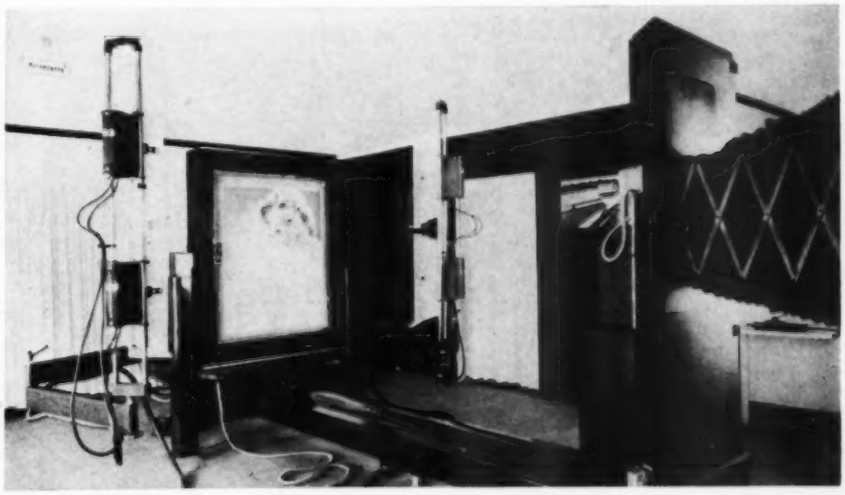
Anti-Sticking Agent For Printing Machinery

An anti-sticking agent for use on printing machinery, nylon gears, ventilators, and locks has been developed by Perc E. Harms Co. Known as Slide, agent is an aerosol spray with which is incorporated high silicone content. It can also be used as a release agent in eliminating mold sticking in foundry shell molding operations and in cutting applications for preventing substances from clinging to cutters. Slide is said to be non-toxic. Circle No. 262 on Reader Service Card.

Visual Control Board Said to Aid Scheduling

Many scheduling problems, it is said, can be eliminated with the Rol-a-chart visual control board devised by Conley, Baltzer & Steward. Entries are made directly on the rotating, transparent, plastic sleeve with a marking pencil and erased with a cloth. The continuous sleeve is moved across a fixed grid designed so any time intervals from minutes to months can be set up. Time is visualized by moving the sleeve forward

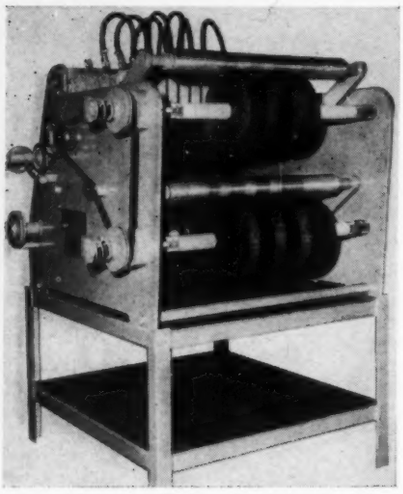
or backward to check any phase of scheduling. Board occupies 4 sq. ft. of wall space and is said to provide 8 sq. ft. of scheduling space. Built of steel, it is equipped with wall hangers, folding easel and carrying handle and may be hung on a wall or stood on a desk. Two marking pencils are also furnished. Circle No. 280 on Reader Service Card.



Electronica Autofocussing Camera—Amsterdam Continental Types & Graphic Equipment, Inc., distributors of Hoe & Hahne cameras, recently introduced the new Electronica horizontal reproduction camera with autofocussing system. Electronic focussing, states sponsor, automatically adjusts subject distance to lens in accordance with desired negative size settings made on the control panel. System is said to incorporate three lenses of different focal lengths, increasing reproduction range to 10x enlargement and 13x reduction. Camera is equipped with centralized controls in one panel for darkroom operation. Sizes are: 24 in. by 24 in., 32 in. by 32 in., and 40 in. by 40 in. Circle No. 254 on Reader Service Card.

Slitter Operates On Spinning Reel Principle

A duplex rewind slitter, which features slip clutches operating on a spinning reel principle to minimize tension, has been introduced by Doven Division, Appleton Machine Co. The slitter, Model BD-S-24, is available with either score cut or razor



blade slitting stations. Machine is said to eliminate excessive tension with a pair of felt driven overriding slip clutches located on the rewind shaft. Material is fed through the machine by a pair of nip rolls with pressure controlled manually. According to Doven, duplex rewind shafts take up the slit material with only enough tension to insure a uniform roll. It is reported rewind shaft on slitter is designed with a core principle to permit each rewind roll to operate independently from the others. This self adjusting feature is said to compensate for difference in material thickness. Slitter operates at rated speeds up to 750 ft. per min. Circle No. 266 on Reader Service Card.

Offset Proof Press with Automatic Inking, Dampening, Printing Cycles

Vandercook & Sons, Inc. recently introduced its 25-38 offset proof press said to feature automatic dampening, inking and printing cycles. According to sponsor, operator can control the length of print by turning a knob. To take care of sheet stretch or shrink between colors, print can be made up to ⅛ in. longer or ⅛ in. shorter than size of image on the plate. Maximum sheet size is 29 in. by 38½ in.; maximum transfer is 25 in. by 38 in., and maximum plate size is 29 in. by 39 in.

The amount of moisture can also be controlled by operator, states Vandercook. Inking system is made up of four 4½ in. form rollers, three vibrators and two 8¾ in. ink drums, combined with an ink feed which automatically supplies the desired amount of ink for each impression. It is claimed automatic washup device washes entire inking system including automatic ink feed in a few minutes.

Another feature of press is reported to be safety. The cylinder carriage will not start until after operator removes his foot from the sheet gripper pedal. Also, a rubber covered safety bar is placed in advance of the cylinder carriage which will stop the press, through a micro switch system, on contact with any object.

The vacuum plate bed is said to be equipped to hold thin plates in firm contact with bed. To facilitate production, feed and delivery tables are built into machine for handling large sheets. Motor for the cylinder drive does not travel with cylinder and does not reverse, reports Vandercook. Weight of press is 6 T. Circle No. 290 on Reader Service Card.

New Offset Blankets Added to Vulcan Line

Vulcan Products Div., Reeves Brothers, Inc. has introduced a new line of offset blankets known as Vulcan Durofyne. The line comprises four grades of blankets, red medium, black medium, black hard, and green hard. Recommended uses of Durofyne and Vulcan Duroflex blankets are published in a chart available from the manufacturer. Uses of Durofyne blankets include printing on sheet metal, printing on cardboard and for use with inks of high K.B. values. Circle No. 251 on Reader Service Card.

Hand Stroboscope Times Fly and Balance Wheels

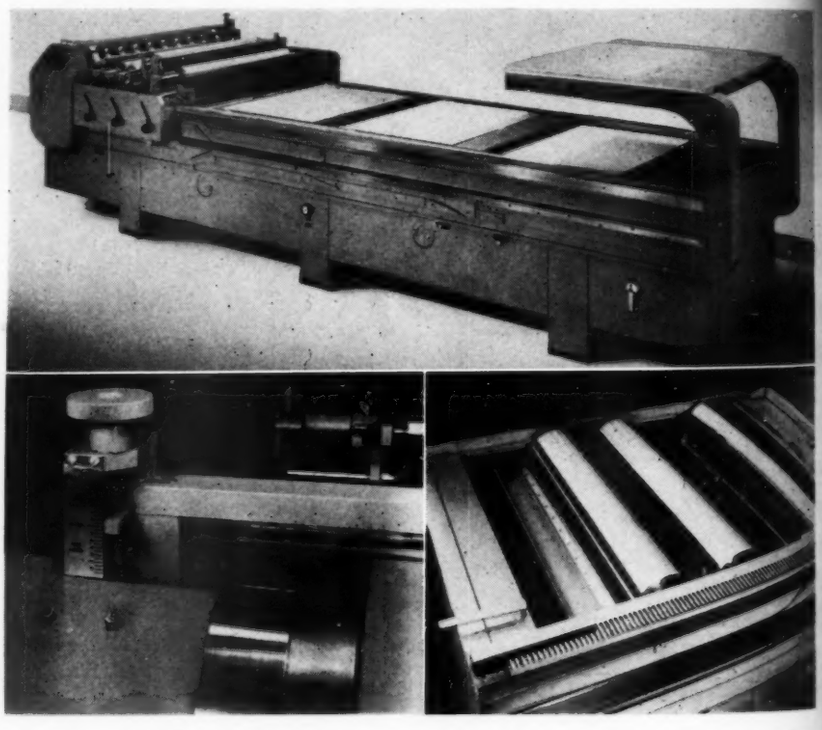
Edmund Scientific Co. has developed a hand stroboscope for timing fly wheels and balance wheels in machinery, or for timing any constant speed, continuous cycle motion. It is claimed stroboscope enables user to get a slow motion view of periodic motion and to determine the frequency of occurrence with considerable

accuracy. Range of frequencies for the instrument is from 6 cy. per sec. to 30 cy. per sec. Stroboscope is held in the hand so its handle is vertical and disk is 1 in. to 2 in. from the eye. The disk is turned and moving object is then observed through slits in the disk. When motion of object appears to have stopped, its frequency may be calculated by multiplying the number of disk revolutions per second by the number of slits in the disk. Circle No. 258 on Reader Service Card.

Steel and/or Brass Type And Word or Emblem Logotypes

Personalized marking, advertising imprints, book binding printing, etc., can be done with Markem engraved steel and brass type and word or name blocks

(Continued on Page 86)



At top is pictured Vandercook's new 25-38 offset proof press said to feature automatic inking, dampening and printing. By turning the control knob shown lower left, the operator can control the length of print on the press to take care of sheet stretch or shrink between colors. At lower right is a view of the press's automatic washup, ink drums and water fountain.

Easy-to-set electronic signals - .002" spacing accuracy

LAWSON ELECTRONIC SPACER CUTTERS

Eliminate hand gauging. The Lawson Electronic Spacer automatically positions each cut to within .002". Easy-to-set signals slide quickly into place. No physical contacts . . . electronic accuracy is not affected by dirt, dust, rust or humidity. Six sided spacer bar permits almost unlimited cutting combinations . . . green light signals operator to make cut. Set repeat jobs on plastic strips, file away until needed.

Increase production. The Lawson Electronic Spacer paces your operator to new production highs. Truly cushioned hydraulic clamping and fast, straightline knife action combine to give a ripple-free cut edge on lifts to 6½" high. Unmatched for accuracy, production and easy operation, the Lawson Electronic Spacer Cutter is sized to suit your needs—39" through 69". Write for full details today.

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PRINTING INDUSTRY PATENTS

Covering patents issued July 1, 8, 15, 22 and 29.

All new patents for the Graphic Arts are reported exclusively for PRINTING PRODUCTION by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc. presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. PRINTING PRODUCTION is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

PHOTOTYPESETTING APPARATUS

This photocomposing apparatus has an optical system which utilizes a single lens to produce images of different sizes in the same image plane from the same master character carrier. An optical flat of greater refractive index than air is interposed between the fixed object plane and the fixed image plane. Thus, variations in image size are possible. A single lens simplifies and economizes the construction. Patent 2,841,062 by Richard C. O'Brien, assigned to Harris-Intertype Corporation.

FILM MAGAZINE FOR PHOTO-TYPOGRAPHICAL MACHINES

After each line of type is photographed onto a section of film being advanced through the machine in step by step fashion, a pair of punches perforates the film in predetermined positions. The punches remain engaged until the film has advanced enough to bring an unexposed portion of the film into position for photographing the succeeding line. Then the punches are withdrawn until the sequence is repeated. Patent 2,845,012 by James C. Pastaras, assigned to Mergenthaler Linotype Co.

TYPOGRAPHICAL COMPOSING MACHINES

The matrices of a typographical composing machine, such as a Linotype machine, can be maintained in correct upright position as they enter an assembler by an air blast nozzle, which is positioned near the upper end of the assembler chute. The matrices will receive the air blast from above as they move down the chute, and from behind as they reach the assembler. Patent 2,845,170 by Paul Hilpman, assigned to Mergenthaler Linotype Co.

Platemaking:

LITHOGRAPHY

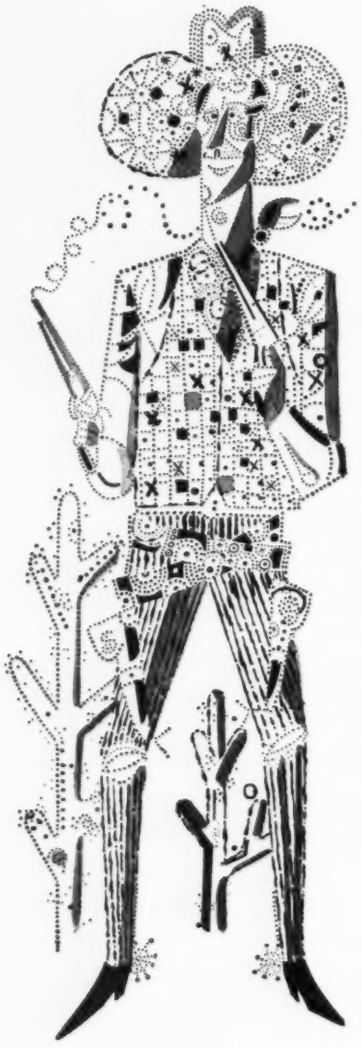
An improved lithographic plate, having low lint pickup, can be obtained by following the conventional deep-etch solution with a treating solution made up of a hydrophobic, oily substance. Such solution contains 2-butoxyethanol, methanol, nickel chloride, and cuprous chloride. Patent 2,841,079 by Elbert A. Dulfer.

AIR TYPE PRINTING PROCESS

This process may be employed in rotogravure, photolithography and the preparation of art work. An image forms on a protein colloid surface impregnated with potassium bichromate when exposed to actinic light behind a line negative. The surface is coated with waterproof ink. Non-image areas on the surface are dissolved away in weak hypochlorite solution and reused in aqueous sodium hydrosulphite. Patent 2,841,493 by Eduardo Carranza.

PHOTOCHEMICAL REPRODUCTION

In the production of correction masks for multi-color screen reproduction processes, this patent features a method of forming a combination photographic image from two or more screen images recorded at different screen angles. Patent 2,841,492 by Donald C. Gresham, assigned to McCorquodale-Gresham, Inc.



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That's Micro-Metal. Add Micro-Mix, the new, stable chemical bath, and you have the perfect combination for 1-bite powderless etching that is fast drawing the attention of photoengravers all over the country. This is the pair that is producing fine engravings with no undercutting or blanking and with a depth of .041" in 14 minutes!

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Working in the interest of Modern Letterpress

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From left to right: Jack M. Reighney, Jr., President; Mary Burt Carol, V. Pres.-Treas.; D. W. (Bill) Reighney, Secretary and Mech. Superintendent, and Machinist Fred Herzog in the Quality Printing Company composing room.

"Since installing TTS® equipment, we've more than tripled our production,"

says J. M. Reighney, Jr., President,
Quality Printing Co., Inc. of West Monroe, La.

Battery of operators at keyboards of Quality's four TTS Perforators.

"We have four Teletypesetter Perforators and two Typesetting Units in operation and our production exceeds a million and a half ems a week. The Perforators are operated five eight-hour days a week, and the line casting machines two eight-hour shifts a day for five days.

"This additional TTS equipment has given us a real automated production flow. The results are most gratifying. After all, in a print shop like ours every line of increased production increases our income, and, as I said before, TTS *tripled* our production."

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TELETYPESETTER

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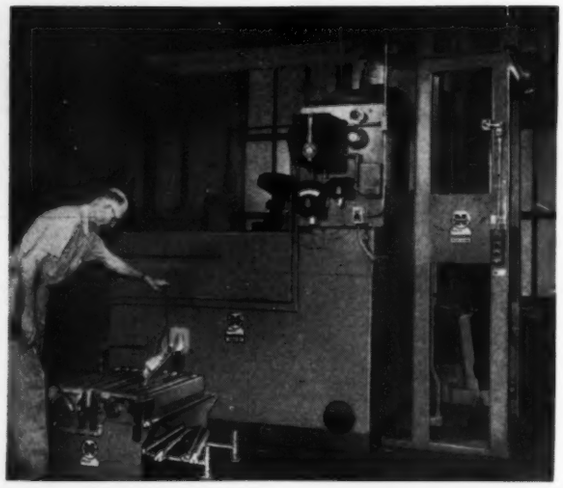

A 5 T. Nolan Type Metal Remelting Furnace has been installed by Nolan Corporation at the Milwaukee (Wis.) *Journal*. Included in the equipment is an automatic metal reloader. Furnace is gas heated. Also included are water cooled ingot molds, metal level indicator and time clock for turning on the heat at a pre-determined time. A hood completely encloses top of furnace.

METHOD OF CURVING MAGNESIUM PLATES

Production of true cylindrical curvature of a plate is accomplished by heating the plate to not less than 450 deg. F., and forming it over a cylindrical convex form by the application of not less than 1000 p.s.i. pressure. Patent 2,841,082 by James S. Kirkpatrick, assigned to Brooks and Perkins, Inc.

MAKING CYLINDRICALLY CURVED PLATES

The plate is formed by a process similar to that discussed in patent 2,841,082. When pressure is applied, a yieldable material such as rubber is trapped against the surface of the plate. In order to avoid having rubber particles adhere to the plate, a thin aluminum coating is put on the plate before application of pressure, and is afterwards removed, along with rubber particles, in a caustic bath. Patent 2,841,083 by James S. Kirkpatrick and Peter Zylstra, jr., assigned to Brooks and Perkins, Inc.

APPARATUS FOR PRESSURE CASTING OF PLATES

High quality curved electrotype plates with standard thin shell face may be produced by this invention. The base alloy is cast between complementary male and female mold halves confined in a platen press. The female half carrying the electrotype shell becomes a part of the printing plate. In casting, fluid pressure is applied to the molten metal while the casting is simultaneously cooled. Patent 2,842,818 by Walter B. Cocks and Warren A. Dutton, assigned to Meredith Publishing Co.

APPARATUS FOR SHAVING PRINTING PLATES

For shaving printing plates, particularly plastic printing plates, a frame is used to support the plate so as to insure accuracy in thickness of the shaved plate, and a platen assembly to press against the printing plate and protect it against buckling in its advance toward the shaving blade. The driving mechanism turns all parts simultaneously. Patent 2,845,009 by Louis E. Mueller, assigned to The Rapid Electrotype Co.

Printing Presses:

DIAMETER DIFFERENTIAL CYLINDER-BEARER GAUGE

This instrument measures the diameter differences between the operating surface of a press cylinder and its bearers to insure accuracy in offset printing. It has a self-adjusting base equipped with a pointer gauge which engages the cylinder

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LABELING MACHINES
CHESHIRE labeling machines do your labeling job and do it 100% right at speeds up to 18,000 an hour. Not only do they save you money, but Cheshire automatic labelers make your magazines, catalogs, booklets, etc. look better because each label is affixed in a uniform manner . . . creates a favorable impression for your company.
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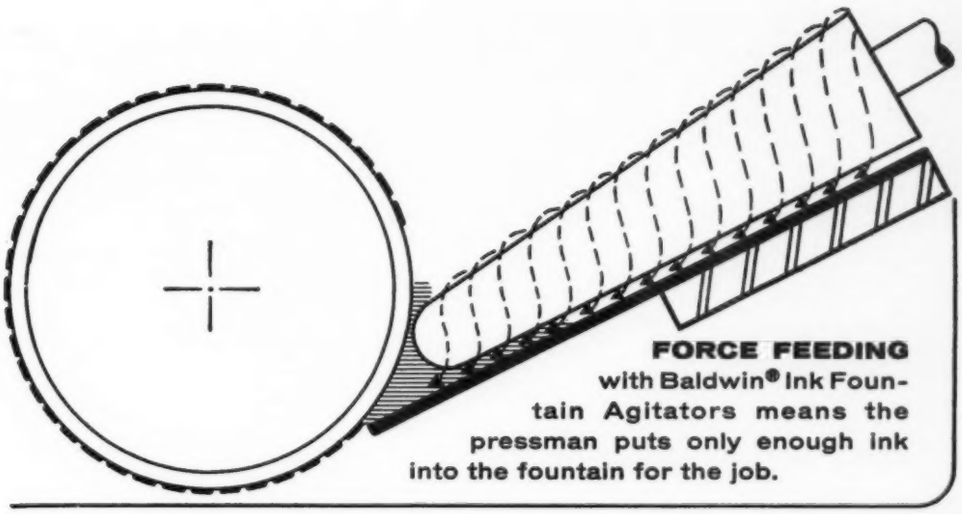
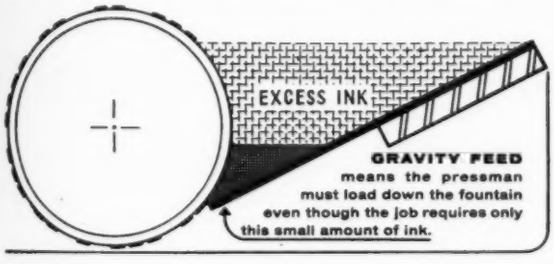


FORCE FEEDING with Baldwin® Ink Fountain Agitators means the pressman puts only enough ink into the fountain for the job.

Here's why Baldwin® Ink Fountain Agitators save ink and help guarantee quality printing

The pressman who has to depend on gravity feed must load down the fountain with enough ink not only to print the job but to provide enough weight to feed ink. As shown below, a lot more ink often is needed for *pushing* than for printing.

As ink is used up, the flow becomes erratic: the roller is "starved" and color weakens. So the pressman has



to add more ink merely to provide the weight needed to maintain flow.

It's a *different* story when a press is equipped with Baldwin Ink Agitators! The ink is *forced* from the large end of the cone where surface speed is greatest toward the small end—ink is *force-fed* to the fountain roller no matter how little is in the fountain. This means feed, color, *quality* always are uniform.

Other important advantages are: The separate motor drive keeps ink mixed even during press shutdowns so there's no ink-wasting skin to be fished out of the fountain. The Baldwin *cleans-in-a-minute* cone cuts downtime to a minimum. And, as the photo shows, adapting the Baldwin Ink Agitator to split-fountain work merely is a matter of "add a color . . . add a cone."

Yes, you save ink, paper, and time—on large or small presses; on long or short runs—with Baldwin Ink Fountain Agitators. And, in the bargain, you get better quality at less cost.

Baldwin Ink Fountain Agitators are licensed under Patent No. 2,234,754; other patents pending.

WILLIAM GEGENHEIMER CO., INC.

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Manufacturers of Baldwin Ink Fountain Agitators • Baldwin Press Washers • Baldwin Water Stops • Baldwin Water Levels

For More Information Circle 67 on Reader Service Card

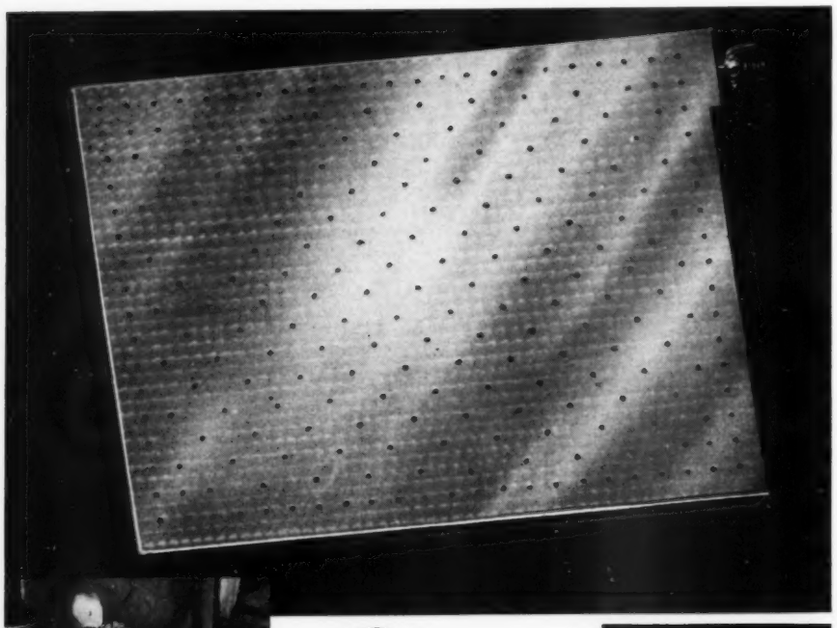
bearer at any position to instantly determine differences of thousandths of an inch. This indicates the need for adjusting the cylinder blanket for more accurate superimposition in printing. Patent 2,844,880 by Rudolph Brunner.

PRINTING DAYLIGHT FLUORESCENT GRAVURE INK

In order to obtain a coating of daylight fluorescent printing ink that will have the optimum amount of dye per unit area, a multicolor gravure press is modified to provide successive duplicating intaglio rolls. The printing inks used have the proper proportions of fluorescent ink and of a flash drying solvent, such as butyl cellosolve. Patent 2,845,023 by Joseph L. Switzer and Robert C. Switzer, assigned to Switzer Brothers, Inc.

PRINTING DEVICE WITH HOLLOW CYLINDERS

This device makes plural impressions useful for multicolor and other printing. It eliminates printing cylinder mounting rolls and their supporting structure, greatly simplifies the mounting and demounting of printing cylinders, and effects substantial savings. This is accomplished by a novel arrangement of hollow printing cylinders. Patent 2,841,080 by John Viscardi.



Showing plates being routed while held by Air-Grip.

Shows plates being held ready for proofing.

Showing plates, on paper cushion over chuck, ready for shaving.

Air-Grip VACUUM CHUCK

HOLDS PLATES FOR ROUTING PROOFING OR SHAVING

The only vacuum plate chuck for engravers, electrotypers, and stereotypers. Holds plates with atmospheric pressure (approximately 14 pounds per square inch) without clamping, locking or gluing.

To use, simply position plates on chuck. Apply vacuum and plates are gripped firmly. Then rout, proof or shave plates. When through, turn off vacuum and plates are released.

Saves time, money and materials. Efficient, economical and sensibly low-priced. Comes complete with vacuum pump. Write for folder and prices.

THE Monomelt COMPANY, INC.

1611 N. E. Polk • Minneapolis, Minnesota

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PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write

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COUNTING AND PACKAGING MACHINE

A photoelectric counter with mechanical moving linkage counts newspapers as they are delivered from a printing press. The papers are then compressed into bundles and tied. The actuating mechanism is similar to that of U. S. patent No. 2,695,087. Patent 2,842,035 by James F. Larkin.

METHOD OF CONTROLLING INK MISTING

A stream of air is forced into the advancing nip of a high speed roller couple at about three times the peripheral speed of the rollers. In roller systems for high speed newspaper printing, misting is greatly reduced. Patent 2,842,053 by Vincent S. de Marchi, assigned to Interchemical Corporation.

CYLINDER CHOKE RELIEVER FOR PRESS DELIVERY

This product handling cylinder avoids damage resulting from a choke. Depressable plates cover the entire surface of the cylinder so that choking may be relieved at any point. It is simple, easy to maintain, and operates well at any press operating speed. Patent 2,842,360 by Curtis S. Crafts, assigned to Miehle-Goss-Dexter, Inc.

SELECTIVE PRINTING PROCESS AND APPARATUS

This apparatus repeatedly prints selected portions of a printing form on an individual sheet, even though these portions are spaced from each other on the printing form and have other printed portions located between them. Patent 2,843,039 by Wilhelm Ritzerfeld and Gerhard Ritzerfeld.

MAGNETIC SURFACE GAUGE

The magnetic qualities of this gauge make it possible for a pressman to place the gauge in somewhat cantilever position on the cylinder of a plate and blanket unit of an offset printing press. The gauge is thus held in a rigid position until accurate measurements are obtained of the height of the plate or blanket surface above the bearer surface. Patent 2,840,918 by Fredric C. Wildeman.

INKING MECHANISM FOR PRINTING PRESSES

Ink is applied to the cylinder in three stages, allowing the two form inking rolls to carry a much thinner film and to avoid clogging the form. One form inking

roll is driven continuously and independently, while the other is reciprocated by the carriage. The mechanism permits faultless inking of forms having shapes difficult to ink, e.g., flat forms with recessed or cut-out portions. Patent 2,841,081 by Kurt Kaufmann, assigned to Automatic Druckmaschinenfabrik Dr. W. Hinniger & Sohne.

INK CONDITIONING FOR LITHOGRAPHIC PRESS

Heated air distributed uniformly to surfaces of an inking roller prevents accumulation of excess water in the ink. The device is simple, rugged, and may be adjusted to any distance from the selected roll. Patent 2,843,040 by Warren Childers.

REVERSIBLE DRIVE FOR ROTARY PRINTING UNIT

This drum is for a unit having a pair of printing couples carried in a common frame structure. Either couple may be reversed, with the gears located to increase accessibility and having all reversing controls located at the same end of the printing unit. Backlash is reduced by this arrangement. Patent 2,844,095 by Charles A. Harless, assigned to R. Hoe & Co., Inc.

TRIPPER FOR BLANKET CYLINDER IN OFFSET PRESS

This tripping device uses a link and pawl arrangement as a turning gear, by means of which the blanket can be continually inked by the plate cylinder before tripping the blanket cylinder to the impression cylinder. In this way, the first sheets printed will be of good quality, instead of being unevenly covered with color. Patent 2,844,096 by Werner Koch, assigned to Faber & Schleicher Aktiengesellschaft.

West Coast Firm Installs Lawson Cutter — Wayside Press, Los Angeles, recently purchased a new 60 in. Lawson Pacemaker cutter from Lawson Company, Div. Miehle - Goss - Dexter. Looking on while operator Earl Von Buskirk demonstrates the machine is Earl L. Anderson, general manager, Wayside.

STRIPPER MECHANISM

Die-cut material can be removed from the cylinder to the delivery tapes in printing presses (for instance, of the Miehle type) which have been converted to die-cutting apparatus. The stripping fingers and the tapes extend slightly below a plane tangent to the cylinder, and the fingers extend slightly below the tapes. Patent 2,844,372 by Julius G. Liebenow and Gilbert I. Liebenow.

WEB FEED MEANS FOR ROTARY PRINTING PRESS

This feeder seeks to eliminate the unprinted spaces between the impressions on a web. It provides a pair of intermittent-grip web feed rolls which will drive the web backward an amount corresponding to the unprinted surface. Patent 2,845,021 by Carl W. Pinckert and Raymond E. White, assigned to Bemis Bros. Bag Co.

Feeding, Folding, Delivery:

SHEET FEEDING MECHANISM

This feeder comprises a rotary vacuum wheel for moving sheets forward to an

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endless conveyor belt and front guides for registering the sheets. The driving mechanisms vary from a minimum to a maximum and back to a minimum speed. Registration takes place at the minimum speed. Patent 2,841,391 by Robert K. Norton, assigned to Harris-Intertype Corporation.

SHEET FEEDER CONTROL

A valve connects a rotary vacuum wheel to a suction chamber and to an atmosphere port. When a sheet is detained or is disarranged a conventional sheet detecting device causes the atmosphere port to open and break the vacuum. Patent 2,841,392 by Robert K. Norton, assigned to Harris-Intertype Corporation.

PAPER-CLAMPING DEVICE FOR DUPLICATING MACHINES

For supporting a stack of sheets to be fed to a rotary press, this paper clamp includes a pair of jaws for gripping the stack, the jaws being operated toward and away from the stack by means of a lazy tong mounted on a threaded spindle. The spindle is manually operated by means of a knob at the free end of spindle. Patent 2,841,393 by Edgar Rutishauser.

FLEXIBLE SHEET COLLECTOR

Used in a conveyor for carrying sheets in the direction of their alignment, this device includes a receiver for the sheets, a stripper disposed to intercept the signatures to collect them in the receiver in non-echeloned, aligned relation, and a second conveyor for carrying the signatures away from the receiver. Patent 2,841,394 by Anton R. Stobb, assigned to Western Printing & Lithographing Co.

STACKING APPARATUS

Sheets or signatures may be automatically assembled and stacked by this invention. A stack receiving station raises the forward edge of each sheet to a vertical position. Smearing and tearing of sheets is eliminated. Patent 2,843,378 by Harry W. Faeber, assigned to Time, Incorporated.

SHEET COLLATING MACHINE

A plurality of sheets is collected in assembled relation on a traveling platform, the sheets being collected from numerous vertical, spaced stacks of sheets by a suction unit. There is a separate suction unit for each stack of sheets. The suction units are rockingly mounted and are capable of conforming to variations in the height of the stack of sheets as the stacks are depleated. Patent 2,844,368 by Robert G. Dexter and John A. Willett, assigned to Cummington Corporation.

SIGNATURE FEEDING AND OPENING MECHANISM

In this invention a number of different folded sheets, or signatures, are separated and deposited upon a continuously moving conveyor in such a way that the leaves are suspended from opposite sides of the conveyor with the folded edges at the top. As more signatures are collected, they are deposited in proper sequence, one on top of the other. With the leaves thus spread apart and correctly aligned, the pages are ideally arranged for binding. Patent 2,845,264 by Harry W. Faeber, assigned to Time, Incorporated.

Miscellaneous:

INTEGRATED IMPRINTING AND LABELING MACHINE

This apparatus receives books from a saddle stitcher and trimmer, then automatically and continuously imprints or labels the covers with dealers' names and addresses or other data and delivers the books to a packing station. Patent 2,843,283 by Ernest J. Sarring, Otho Kile and Theodore W. Mayer, assigned to R. R. Donnelley & Sons Co.

SHEET CUTTING AND LAYING MACHINES OR APPARATUS

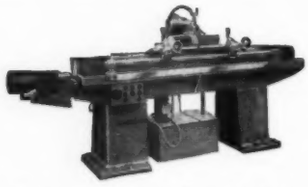
To impart greater rigidity to traveling sheets, this device uses a rotating roll with a corrugated surface which gives the sheets a corrugated form. This keeps the sheets advancing evenly while overlapped. A stationary metal plate receiving the sheets is similarly corrugated. Patent 2,843,377 by James E. Battersby, assigned to Masson Scott & Co., Ltd.

PAPER EJECTOR

This paper ejector can handle large or small sheets, can be moved from one op-

SPECIAL GRINDING, POLISHING AND DIAMOND LATHE EQUIPMENT BUILT BY

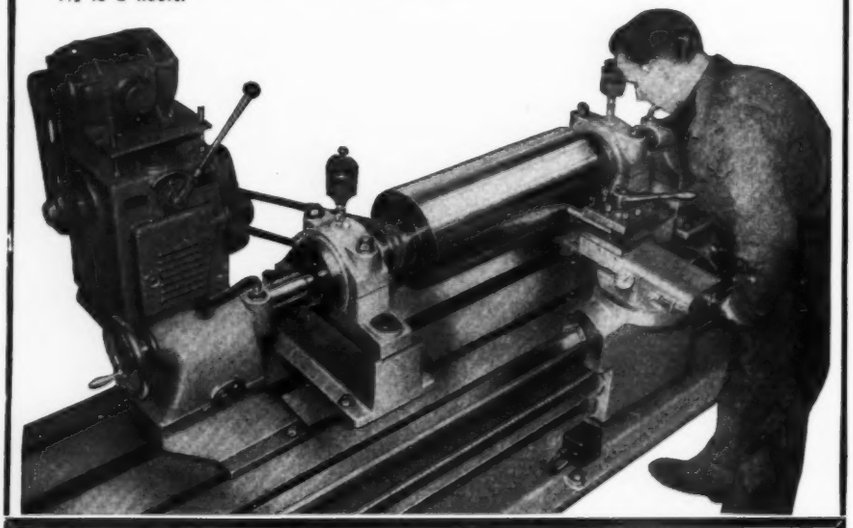
Schwede



Doctor Blade Grinding Machine

Copper Cylinder Grinding and Polishing Machine

This lathe serves to turn cylinders along their full width so that they are exactly cylindrical; this is of fundamental importance for an even impression and exact register in multi-color printing. Cylinders with a new copper deposit are first turned with hardened steel, then they receive precision turning with a diamond. The diamond produces such smooth surfaces that the cylinder only needs slight polishing to be ready for etching. The depth of the cutting (4 ten thousandth to 6 thousandth of an inch) can be set exactly by means of a measuring instrument (micrometer) on the diamond holder. The cylinder diameter can be determined to 4 ten thousandth of an inch. Working time for a cylinder up to 79" cylinder length: about 1½ to 2 hours.



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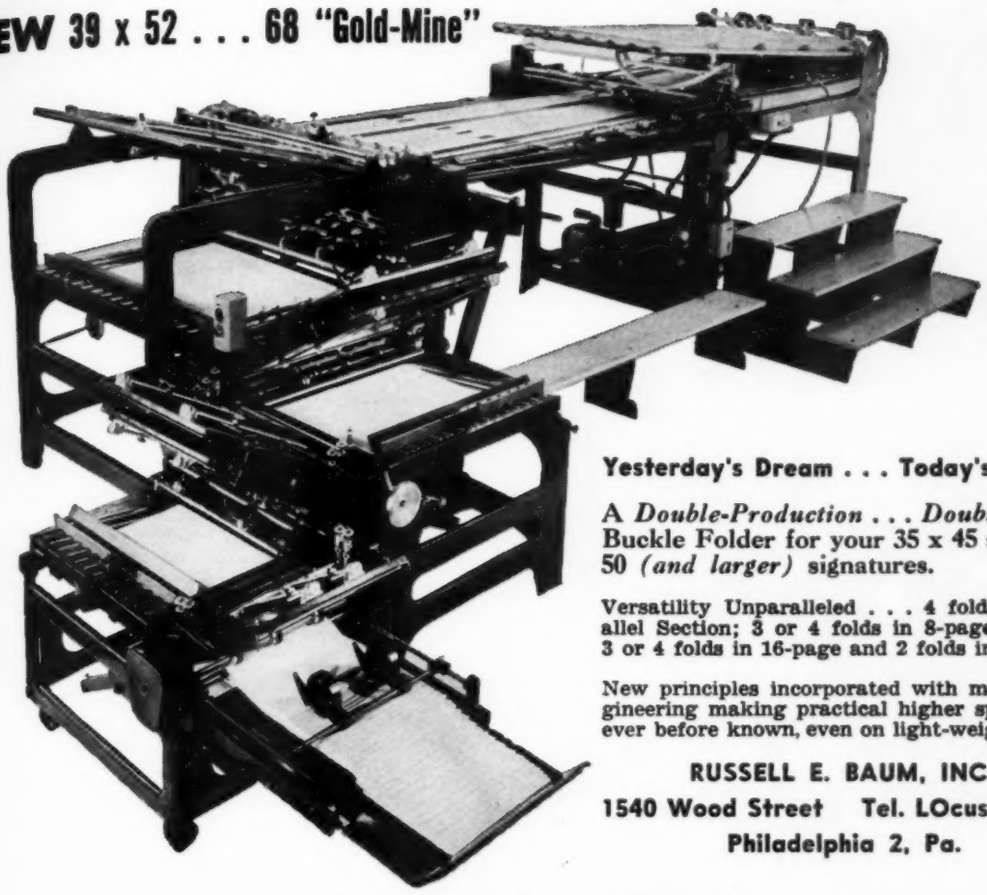

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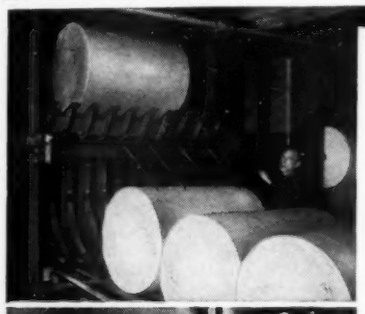

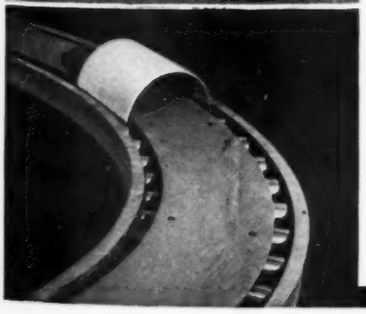

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erating position to another, or operated cooperatively with other ejectors. It comprises a housing, rotatable rollers mounted in the housing, a high coefficient of friction dress on the rollers. The rollers are mounted in such a way that one roller can move into binding contact with the second roller. Patent 2,844,370 by Wilbur E. Thomas.

Binding, Cutting, Perforating:

PERFORATING STRIP

Perforation is done simultaneously with transfer of the inked image from rubber blanket to paper with this device. The strip has an elongated, flat, flexible base having toothed side edges on one face, which is cemented on the impression cylinder of an offset press. Patent 2,842,202 by Harry S. Boyd.

DEBOSSED PRINTED BOOK COVER

This invention is based on the discovery that a die which has been stippled around its outer edge can produce a debossed design on leather or other material which, although apparently raised, is actually beneath the plane of the material. A more pleasing appearance results, which greatly increased wearability. Patent 2,842,884 by Charles A. Stevensen, assigned to The Heinn Company.

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CARBIDE PRINTERS' "THINSAW"

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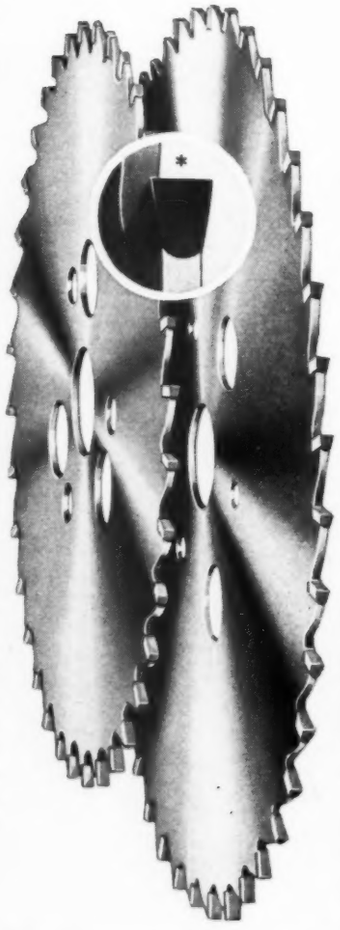

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books

Darkroom Design and Construction

An aid to planning photographic equipment location and construction of darkroom facilities entitled *Darkroom Design and Construction* has been publishd by Eastman Kodak Co. The 64 page publication is a guide to be consulted prior to contacting an architect or builder.

Featured in the guide are 29 darkroom layouts, presented as examples of typical situations that may be encountered by a photographic department in planning its facilities. Four layouts are designed specifically for Graphic Arts while another four are planned for newspaper use. Examination and study of all the layouts presented should prove to be helpful to those interested in installing or revamping a photographic department in their plant.

Subjects discussed in the book include preliminary planning, entrances, wall and floor covering, electrical wiring, ventilation, plumbing, and bench construction. Other areas include safelights, processing sinks, water temperature control, and loading, mixing and finishing rooms.

Darkroom Design and Construction takes five preliminary planning factors into consideration: (1) Anticipated work output. (2) Number of persons who will be working in space. (3) Major pieces of equipment to be installed. (4) Space available. (5) Physical workflow through area.

Darkroom Design and Construction — Guidebook published by Eastman Kodak Co. Measures 5¾ in. by 8½ in.; punched for insertion in Kodak handbooks; 64

Accident Prevention Program—John M. Wolff, right, vice president, Western Printing and Litho Co., St. Louis, received a rebate check recently for an excellent safety record in his plant from W. T. Jones, jr., insurance executive, W. H. Markam Co., St. Louis. Displayed on the desk is the Safety Manual for the Graphic Arts industry published by the Education Council of the Graphic Arts Industry in cooperation with the National Safety Council. For details on conducting a plant accident prevention program, write to the Education Council of the Graphic Arts Industry, 5728 Connecticut Ave., N. W., Washington, D. C.

pages, illustrated. May be obtained through Kodak dealers. Price is 50c.

Need Broader Background

The need for broad education in the physical and social sciences by young people entering the Graphic Arts industry was a major conclusion of a group of personnel and training directors from printing plants. They met recently at Carnegie Institute of Technology, Pittsburgh, Pa. Host for the meeting was Dean Glen U. Cleeton of the School of Printing Management. Chairman of the conference was Leslie C. Shomo (National Pub. Co., Washington, D. C.), president of the Education Council. A report of the meeting has been published.

"The rapid introduction of new processes, techniques and equipment throughout the Graphic Arts industry not only requires a high quality of craftsmanship ability but also a high degree of technical competency," stated Shomo. "It is no longer sufficient for them to spend the major part of their secondary school life in the shop—there must be more time in the classroom and laboratory."

Manpower needs for the printing industry are estimated at a minimum of 10,000 new employees each year for the next eight years to replace employees leaving the industry due to retirement, death and other causes. In addition, the U.S. Dept. of Labor estimates normal growth of the industry will employ another 150,000 employees. Present employment is approx. 850,000 in over 35,000 printing and publishing plants throughout the U.S. The Graphic Arts industry ranks among the six major industries in the U.S.

Proceedings of the Conference include detailed information on Graphic Arts industry technical education programs for school and in-plant training use. Copies available at $15 each from the Education Council of the Graphic Arts Industry, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Runs Tabloid on Collect Run Without Stuffing—At the recent San Francisco (Calif.) Pacific Mechanical conference, a skip slitter was discussed by Don D. Malone, press foreman, *South Bay Daily Breeze*, Rodondo Beach, Calif. Purpose of the gadget is to run a tabloid on a collect run without stuffing. Basically, the slitter is mounted on a shaft turning parallel to the drag roller on the press. Location of the shaft is anywhere on the former—the higher the better. This shaft is ball-bearing mounted and driven by a chain from the folding cylinder in a ratio of 1:1. The slitter itself is a 9¾ in. blade, ¾ in. thick with ⅛ in. flame hardened segment attached to the circumference of the hub.

Length of the cutting edge is determined by the press cutoff. On a 22¾ in. cutoff the length is around 13 in. depending on how much overlap you wish. Our first design started with a 15½ in. blade turning in the same direction as the paper. This was discarded in favor of our present setup of keeping the 1:1 ratio but turning the shaft and blade in the opposite direction of the paper. This gave a 100% differential in the speed of the blade and the paper, which makes a beautifully smooth cut. We have run our slitter at 30,000 per hr. and tabloids up to 24 pages successfully.

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Save time, labor and money on metal and metal handling. With this Nolan combination, you can load 600 pounds of metal in 30 seconds . . . Easy push-button loading . . . No hand ladling. The Nolan Remelter melts a full pot in less than two hours . . . additional loads in one hour. Save time—save costs. Write now for complete information. No obligation. Nolan will custom-design to fit your requirements.
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Equipment and Supplies

(Continued from Page 74)

(logotypes). Engraved individual letters, figures and symbols are available in sizes from 6 pts. to 24 pts. (larger type on order), and in heights of 0.918 in. to 0.625 in. or 0.375 in.

Markem type is engraved to order in word blocks, name blocks, slugs, trade marks or designs can be reproduced from customer's copy. Circle No. 259 on Reader Service Card.

Currency Printing Speeded Through Powder in Nonoffset Inks

Substantial cost savings in the sheet fed rotary press printing of United States currency by the Bureau of Printing and Engraving have been effected through the development by the bureau of nonoffset black inks which, it is said, greatly speed the intaglio printing processes and eliminate much hand labor.

Information on this development obtained by W. R. Grace & Co., Davison Chemical Div., is released with permission of the bureau. Davison supplies Syloid 308, which is used by the bureau in ink formulations. It is a fine white powder known technically as a micron-sized amorphous silica.

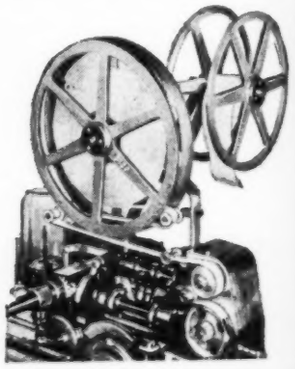
Syloid 308, together with other ingredients in the secret ink formulations, reduces to a minimum the tendency of the black inks to offset. Precisely how the product contributes to this effect is a matter of speculation, but is believed it adds to the thixotropic properties of ink—ability to flow under pressure.

With the dry intaglio process, the sheets are printed and stacked in lots of 10,000 sheets. Any tendency of sheets to offset at the bottom of the 10,000 sheet stack is no worse than at the top. The sheets must be held, for 24 hrs. after each printing operation so that the ink becomes thoroughly dry and does not cause difficulty in the subsequent operation. Circle No. 275 on Reader Service Card.

Portable Baling Press—Lake Engineering Co. has introduced the Mark 1-42 baling press, which is mounted on roller bearing casters for portability. Horizontal design of press enables materials to be charged into hopper from any direction. Materials can also be fed into the press by a conveyor or through a chute from above. Machine features one control lever and complete stroke of ram cycle requires 16 sec. Bales are tied semi-automatically with heavy duty twine and finished bales are ejected automatically. Power package is all hydraulic. A bale of mixed paper will weigh approx. 320 lbs., and a bale of corrugated approx. 165 lbs. Baler is 34 in. wide, 110 in. long and 30 in. high. Circle No. 276 on Reader Service Card.

Rotary Labeling Head Introduced by Cheshire

The Model R4600 rotary labeling head for handling all labeling tapes on the Cheshire Model C or other labeling machines has been announced by Cheshire, Incorporated. Unit is claimed to be a



light duty, dual head equipped with solenoid throwout to prevent misses and lost labels. It can be used to apply wide strip and tape strip labels interchangeably. Head also can be mounted on single book trimmers, and wrapping and mailing machines. Unit operates at rated speeds from 5000 to 15,000 pieces per hr. Circle No. 257 on Reader Service Card.

Vacuum Back Available For All Kenro Model Cameras

Kenro Graphics, Inc. recently introduced an all purpose vacuum back for use on all its camera models. It is said vacuum

take the GUESS out of buying Press Lubricants!

PLAY SAFE BY SPECIFYING . . .

ALBANY LUBRICANTS

for new equipment . . . for older equipment

ALBANY TALLOW LUBRICANTS ARE THREE TIMES AS EFFECTIVE AS ORDINARY LUBRICANTS.

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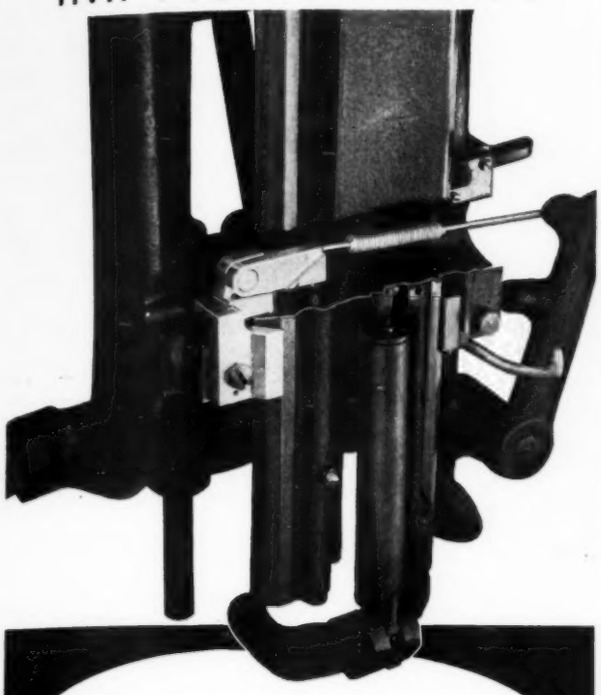
ANOTHER **STAR** IMPROVEMENT!



The NEW Slug Jogger

The new STAR Slug Jogger gives positive slug stacking and eliminates one of the principal causes of pile-ups in the galley. Since it is actuated by the First Elevator Slide, not the Justification Lever, each slug is moved a uniform distance to the left, regardless of the amount of justification drive.

Neither the Jogger nor the machine can be damaged because of any interference which might prevent slug movement in the galley. An "overthrow" spring acts as a safety, and the machine completes its normal cycle.

Attaching the STAR Slug Jogger is simple. Only one hole is drilled and tapped, and the application can then be completed in a few minutes. A single adjustment takes care of the jogging pressure. Once locked in position it requires no further attention.

The new STAR Slug Jogger can be applied to all line-casting machines except those with Mohr Saws. Order by Star Part No. M-58 and be sure of efficient simple slug jogging.

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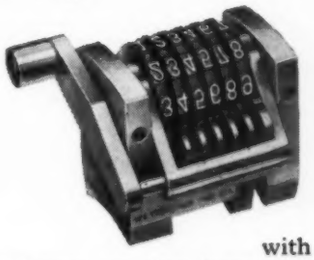
Speed NEVER MEANS SPOILAGE

with a WETTER RIGHT-ANGLE ROTARY

Wetter Right-Angle Rotary numbering machine will deliver in perfect sequence and with perfect accuracy, numbered work at highest press speeds. No overthrowing or skipping of figures. Its rugged, all steel construction means you *keep* getting top performance, even after years of hard usage.



WETTER PARALLEL ROTARY

with curved dovetail base steel frame, number faces custom curved to printing circumference of your press insures sharp legible numbering at speeds up to 30,000 impressions per hour. You save set-up time too with the exclusive Wetter Quik-Lok clamping gib—no mounting ring adapters needed! Both Wetter rotary models can be installed on same mounting ring operated by same cam, and are available with Roman or Gothic figures.

LOCK-WHEEL MODEL for small diameter cylinder presses. Features patented lock bar to prevent throwover at high speeds.

NONPAREIL MODEL a favorite for large diameter cylinder, automatic and platen presses. Both Lock-Wheel and Nonpareil Models available in 5, 6, 7 and 8-wheel types, Roman or Gothic figures.

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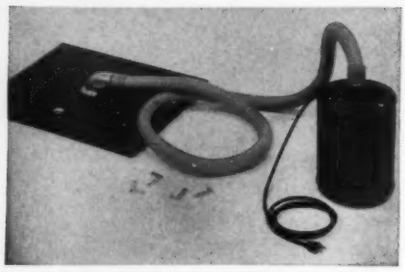

back enables the vacuum principle to be used in making line and autoscreen negatives as well as contact screen halftones. It is installed on Kenro cameras by removing the spring pressure top and the stay flat glass from the film holder and inserting the vacuum back. Device requires no selector valves and will handle all standard size film up to 12 in. by 18 in. and 14 in. by 17 in. A 14 in. by 17 in. contact screen is used. The pump can be hung on a wall or placed on the floor. Circle No. 273 on Reader Service Card.

Lucikon Vertical Camera Features Balanced Lighting

A balanced lighting system, M. P. Goodkin Co. reports, is featured in the Lucikon Model D-Lux 18 in. vertical camera. Four 300 W. reflectorflood lamps are mounted inside reflectors. The lamps are adjustable 360 deg. and reflector is mounted on the copyboard for even illumination over entire copy area regardless

of position of copyboard, states Goodkin. A Goerz lens is said to enable 300% enlargement or reduction of copy. Film up to 14 in. by 17 in. or 12 in. by 18 in. may be used. Copyboard is 19 in. by 25 in. Hinged copyholder will take flat and bulky copy for reproduction. Circle No. 255 on Reader Service Card.

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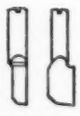
MORE PRODUCTION
with less fatigue!

The NEW RAR-1
WESEL ROUTER

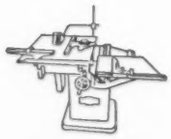
★ Easier to Operate
★ Longer Lasting
★ Lower Maintenance Costs
★ No Belt Shifting
★ No Arm Drag

While the Wesel router is built for heavy duty and longer life it is one of the easiest routers to operate. No arm drag and no belts to shift! The resulting reduction in operating fatigue increases production and profits. The exclusive Wesel design eliminates most of the maintenance problems usually encountered with machines of this type. Make your next router a Wesel RAR-1. Plan to retire your old equipment now!

MANUFACTURERS TO THE GRAPHIC ARTS INDUSTRY



Router Bits



Saw and Trimmers

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For More Information Circle 185 on Reader Service Card

Gelb Announces Electronic Light Timer

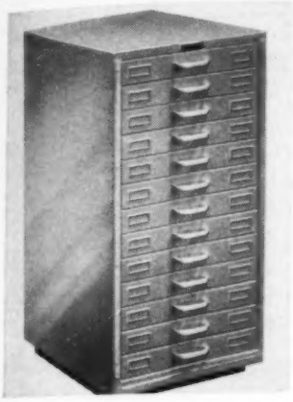
An electronic light activated exposure timer, known as the Gelb Totalizer, has been announced by Jos. Gelb Co. It is claimed unit automatically compensates for fluctuation in light intensities due to variations in line voltages, aging light sources and variable light distances. Timer is furnished with an electronic eye light

cell which can be mounted on the copyboard or transparency kit of cameras, vacuum frames or photocomposers. Cell receives light rays and transmits them to timer. A variable density aperture is mounted over electronic eye window, manually rotated for synchronizing the light unit to clock time ration. Totalizers are available in three models: Model EL-1 for vacuum frames with exposures of 5 min. to 20 min.; Model EL-2 for vacuum frames and photocomposers, and Model EL-3 for camera operators. Circle No. 256 on Reader Service Card.

Linotype Drawer Cabinet Stores 26 Fonts of Matrices

Graphic Arts Mfg. Corp. has announced its No. 1324 Linotype drawer cabinet said

to store over two full fonts of matrices in each drawer. Cabinets are equipped with aluminum number strips and card and pull holders. Floor space is 19¾ in.



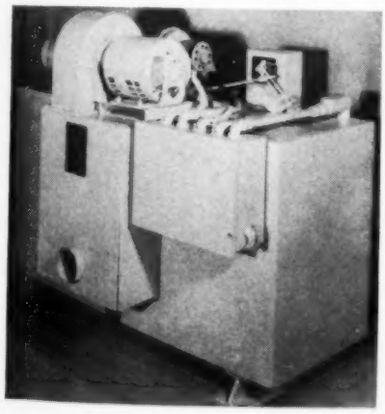
by 24¼ in. and inside drawer dimensions are 17¼ in. by 24 in. by 2½ in. Each cabinet is furnished with 13 drawers. Circle No. 252 on Reader Service Card.

Flushed Gel-Toners Offered in Seven Colors

A line of flushed colors in gel varnish for use in formulating offset and letterpress inks has been reported by Hilton-Davis Chemical Co. It is claimed a feature of the flushed gel toners is high strength. Absence of bleed in water or fountain solutions is said to enhance their value in formulating inks. Each toner is compatible with litho varnish, alkyds, gloss and heat set vehicles, states sponsor. Available in seven colors, the flushings are said to have good flow and impart shelf stability to inks. Circle No. 268 on Reader Service Card.

Dual Tower Dehumidifier Features Continuous Drying

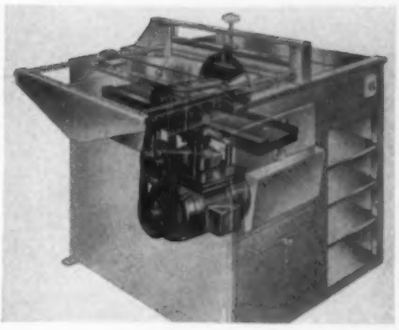
A compact dual tower absorption dehumidifier, which is said to handle up to 70 cu. ft. of air per min., has been reported by Universal Dynamics. It is claimed



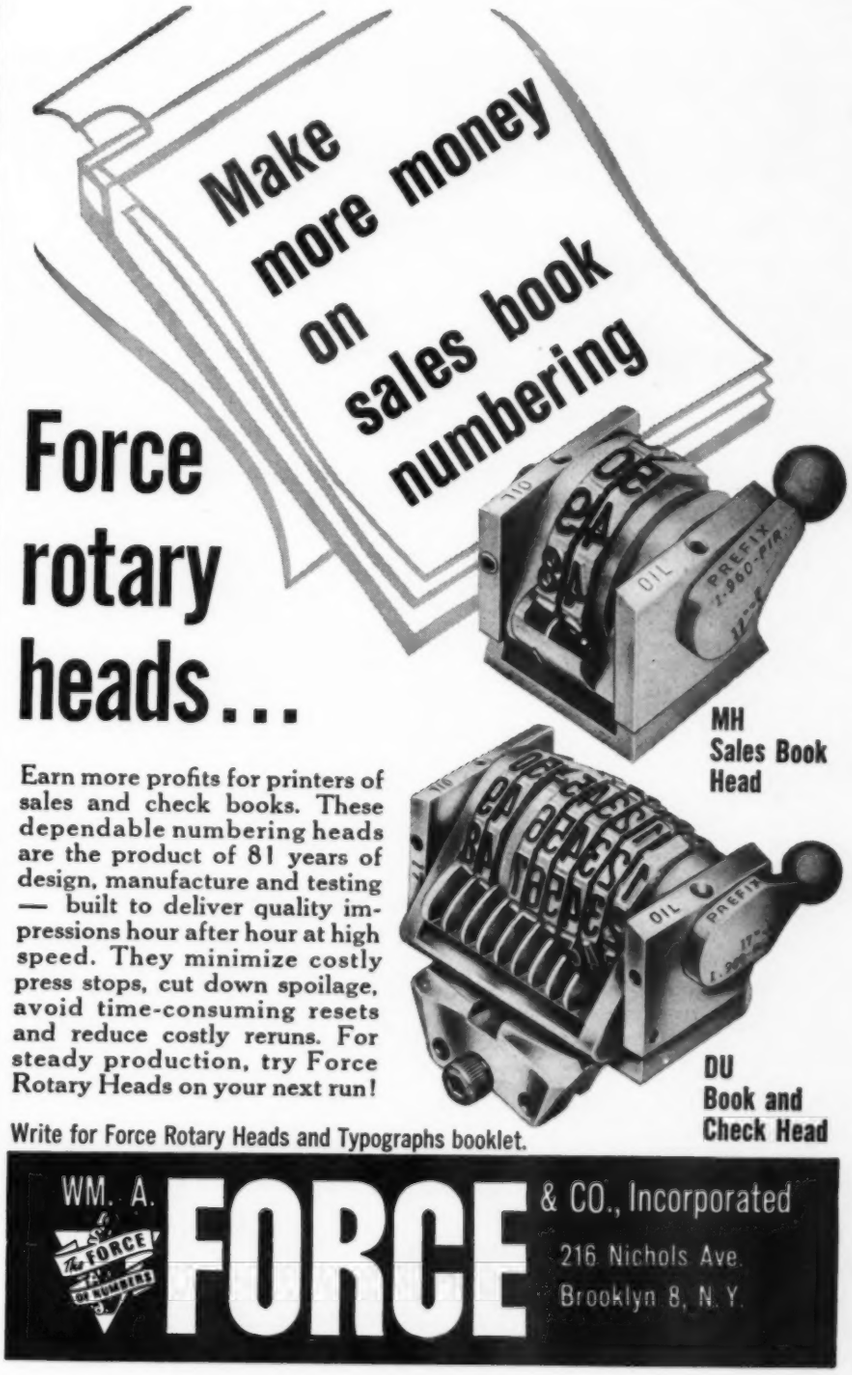
dual tower feature enables continuous drying. Known as Model A12, unit will remove up to 30 lbs. of water vapor per 24 hrs., states Universal. It can be used for standard applications as well as humidity control in unheated spaces or low temperature installations. Unit is automatic and may be installed inside or outside the space to be controlled. It is available with humidistat controls or with a constant humidity regulator for maintaining close tolerances (±0.5% relative humidity). Circle No. 253 on Reader Service Card.

Breidenbach Safety Saw Cuts Through Work Automatically

The Breidenbach safety saw, which operates on the principle of automatically cutting through the work, was recently introduced by Pate Company. It is claimed saw cuts 24½ in. of material with accuracy of ±0.001 in only 9 sec. Work is clamped before, during and after sawing to prevent loose ends and chips from



flying up. Overall sawing capacity is up to 149 picas in length and 24½ in. width. Circle No. 272 on Reader Service Card.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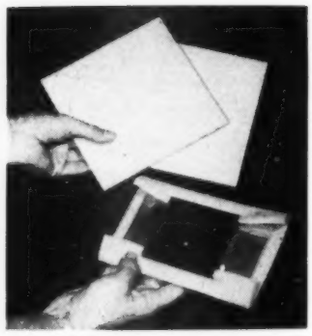
For More Information Circle 64 on Reader Service Card

Correcting Liquid and Tusche For Presensitized Plates

A correcting liquid and tusche said to be specially prepared for presensitized plates has been developed by ARC Litho Specialties Co. It is claimed the fluid used with the tusche will make it possible to fill in open spots in solids on presensitized plates that will hold for an entire press run. ARC fluid and tusche are offered in sets. Circle No. 286 on Reader Service Card.

3M Presensitized Litho Plate Available in New Large Size

A new 47½ in. by 59 in. presensitized photo offset lithographic plate, made of



12 mil. aluminum, has been introduced by Minnesota Mining and Mfg. Co. Features of plate are said to include a smooth surface and machine coating for truer reproduction. According to 3M, processing of the plate is essentially the same as for other 3M plates, however, new developing pads and holders (shown) are being made available for easier processing. Developing time is approx. 5 min. A reduced exposure time to a reading of step 6 on the gray scale for this plate and all negative acting 3M plates has also been announced. Circle No. 287 on Reader Service Card.

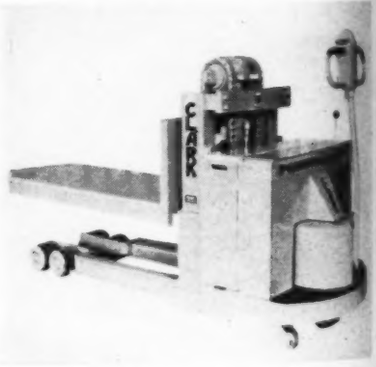
Klimsch Whirler Equipped With Infra-red Heater

Repro Graphic Machines, Inc. recently introduced the Klimsch Rotobox, a whirler equipped with infra-red heater for plates up to 24 in. by 28 in. After the coating

solution has been poured onto the plate, whirler is tilted into vertical position and closed. Air is then sucked in through a filter and exausted by a fan. Unit is said to be compact in design and clean in operation. Circle No. 270 on Reader Service Card.

Clark Offers Medium Lift Battery Powered Hand Truck

A medium lift battery powered truck for lifting and hauling skids has been introduced by the Industrial Truck Div., Clark Equipment Co. Called Powrworker, unit will lift 4000 lbs. Maximum lifting height is 21 in. A 6000 lb. capacity machine is also available. The skid carrying platform is 26 in. wide and is offered in lengths from 36 in. to 60 in. Forward



and reverse direction is controlled by a butterfly switch in the control head on the steering handle, which turns 90 deg. in each direction. Brakes are automatically applied when steering handle is in either vertical or horizontal position, and

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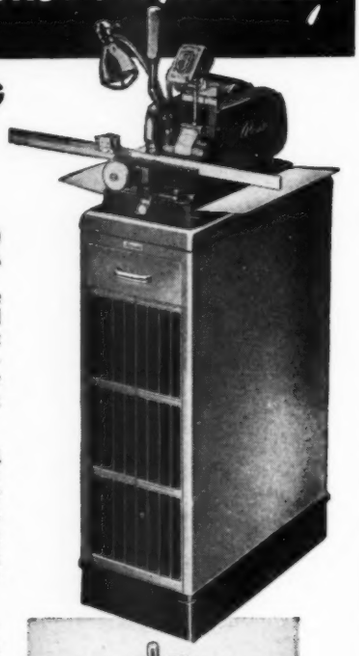
Rouse

POWER MITERER



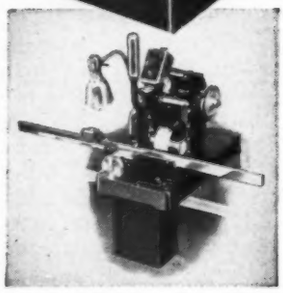
If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.



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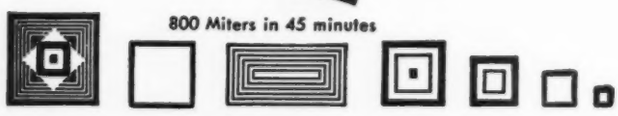

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BAND SAWS

For More Information Circle 152 on Reader Service Card

handle returns to vertical position when released by the operator. Series wound motor is a high torque type, horizontally mounted. Either a single row or double row 12 V. battery can be used. Circle No. 263 on Reader Service Card.

Oval Shape Safety Containers Said to Take Less Storage Space

New oval shape 5 gal. safety cans, claimed to require less storage space than round cans, have been reported by Protectoseal Company. Cans are fur-

nished with a flexible metal pouring spout which eliminates spillage when dispensing and permits filling of containers with small receiving openings without waste, states sponsor. Pouring spout swivels to a position over can body when not in use. All seams are lap joined and electrically seam welded. Fill opening cap opens to 80 deg. and both fill opening and dispensing opening are provided with perforated metal fire baffles to guard contents from ignition. Circle No. 285 on Reader Service Card.

Slip-on Fittings Used To Double Storage Capacity

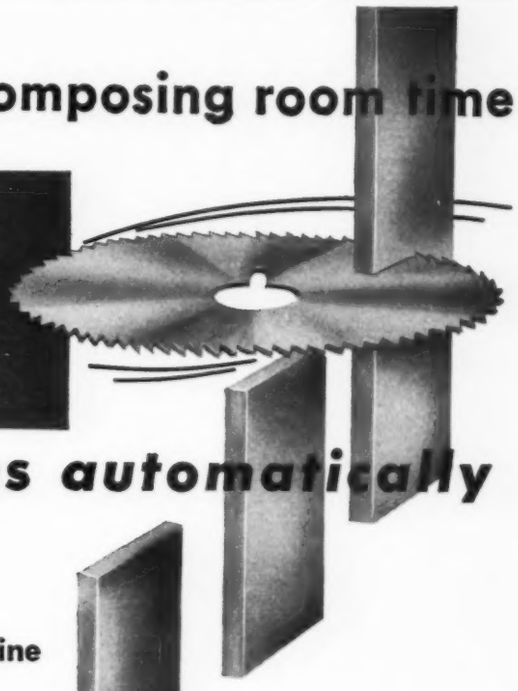
Nu-Rail Rackmaster structural slip-on fittings, manufactured by the Hollaender Manufacturing Co., were recently used

to convert single entry pipe storage racks into double entry racks at the Honolulu Paper Co. The racks now carry double their original load of 4000 lb. pallets of paper goods and are said to permit maximum use of storage space. It is reported the single units were easily coupled back to back. Circle No. 274 on Reader Service Card.

Automatic Collator—American Short Line Railroad Assoc., Washington, D. C., recently installed an eight bin Model 800 Collamatic automatic collator, it is reported by Capitol Offset & Printing Supply Co. Unit is said to turn out up to eight page jobs at a rate of 1800 sets an hr., all stapled, stacked and jogged. Collamatic is equipped with a thickness gauge which stops the machine when the wrong number of pages is in place. It is available in models with up to 40 bins. Circle No. 284 on Reader Service Card.

SAVE composing room time

The Mohr Saw



saws slugs automatically

- to *any* measure
- right at the machine
- without spoilage

This illustrated book is yours for the asking — write for it and you'll see why 2 out of 3 of the daily newspapers in the U.S. use the time-saving Mohr Saw.

A Mohr saw, attached directly to your linecasting machine, will cut away the parasites that prey upon profits—walking time, waiting time, sawing time and jam-ups. All sawing is done right *at the machine*,—and you'll get a *better* job without spoilage.

Mohr LINO-SAW Company

8015 N. Ridgeway Ave., Skokie, Illinois

For More Information Circle 123 on Reader Service Card

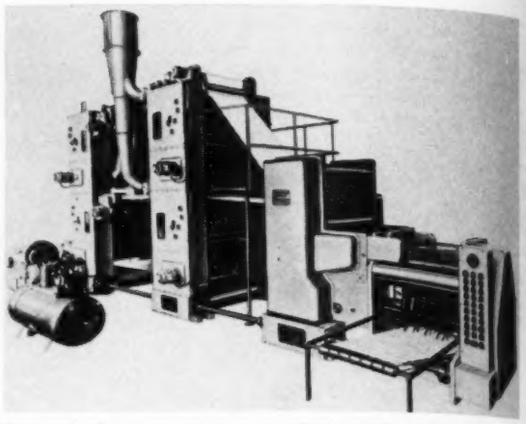
Heavy Duty Tank Type Suction Cleaner and Blower

A heavy duty, tank type industrial portable suction cleaner and blower (Model 101) has been developed by Ace-Sycamore, Inc. Where the tool will be used for dry pickup only, a standard baked enamel tank is furnished. For wet and dry pickup, a stainless steel tank is supplied. Tank capacity is 15 gal. The universal motor for 115 v., a.c.-d.c. operation, at high speed develops 27,000 lineal f.p.m. velocity; at low speed the velocity is 21,500 lineal f.p.m. Cleaner-Blower is equipped with 20 ft. of 3 wire cord with plug. The power unit is attached to the tank or may be detached for hand or shoulder operation. Tank is mounted on molded rubber wheels for portability. Net weight of equipment is 40 lbs. Standard set of attachments.

Equipment may be used for vacuum cleaning machinery, folders, type cases and floors; equipment may also be used for air sweeping floors, walls, machinery, electrical equipment and the like. Circle No. 283 on Reader Service Card.

M.U.F. Rotary Letterpress—

Amsterdam Continental Types and Graphic Equipment, Inc. recently introduced the M.U.F. web fed rotary letterpress which accommodates paper widths up to 47½ in. Press is constructed on the modular unit principle enabling custom designed installations. Electronically controlled reel speeds and a pair of pneumatically operated cones are said to guarantee constant web tension. Plate cylinders can be easily changed and are provided with snug gripping and tightening mounts for rubber and plastic as well as metal plates. It is reported each printing unit contains an inking system with continuous supply. The folder, also built on the modular unit system, can be adjusted to cut any desired size, with a slitting device that produces an exact cut at running speeds, states sponsor. Press is operated by push button controls. Circle No. 288 on Reader Service Card.



Chromatone Ink for Use With Ink Gun and Cartridge

Chromatone Printing Ink, Div. Polychrome Corp., has introduced its Quick Set press ready lithographic ink for dispensing with ink gun and cartridge. Chromatone ink is available in 12 colors and is suitable for large press and duplicator press use. It is prepacked in standard ink cartridges and can be applied with any ink gun. Circle No. 265 on Reader Service Card.

Split Fountain Agitators for Letterpress and Offset Equipment

Baldwin Ink Fountain Agitators for split fountain work are being manufactured by William Gegenheimer Co., Inc. Cone shaped agitators are said to push-feed even heaviest bodied inks to fountain roller and to enable jobs to be started with less ink. Usable on both letterpress and offset equipment, agitators are claimed to be of quick cleanup design. Circle No. 291 on Reader Service Card.

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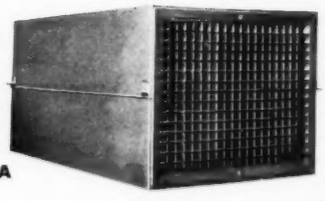

TYPE BA

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NAME_____

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Winston-Salem, N.C.

PR-2

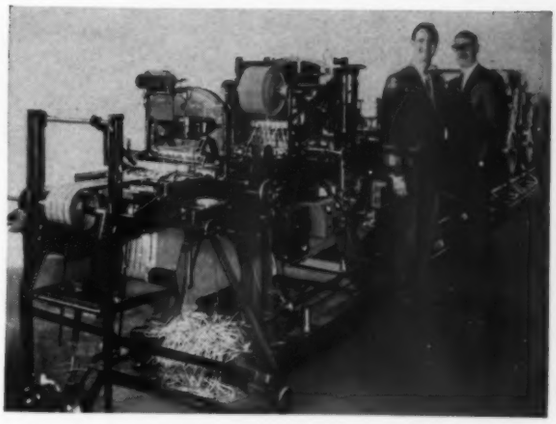
For More Information Circle 215 on Reader Service Card

Wins Mead Award — Higgins-McArthur Company, Atlanta, was a recent winner of a top award in a nationwide competition for fine printing sponsored by Mead Papers, Inc. Presentation of a framed Awards Certificate was made to Kent Higgins (right), Higgins-McArthur, by James M. Gibbs of the Dillard Paper Co., Atlanta distributor for Mead Papers.

Detroit Firm Orders Cottrell Press — Safran Printing Co., Detroit lithographers, recently ordered a new Harris-Cottrell 35 in. by 50 in. five unit perfecting web fed litho press. Hyman Safran, left, president, is shown signing a contract for the press. At right is Stanton C. Saunders, vice president sales, Cottrell Company, Sub. Harris-Intertype Corp.

Hartford *Times* Expansion — Frank A. Kopp, left, manager of Eastern sales, Goss Company, looks on as David R. Daniel, publisher, Hartford (Conn.) *Times* signs the purchase agreement for a 10 unit Goss Headliner press, two folders, and associated equipment. The new equipment will cost $1 million. The *Times* has already begun a $350 thousand expansion project which will provide a three story addition in the rear of the present building. It will house the new press on the basement level and will allow room for expansion of the business office, the editorial room and mechanical departments on the upper three floors.

Installs New Era Press— Pee Cee Tape and Label Co., Los Angeles, recently installed a New Era Press for pressure sensitive labels and all other type labels. It is said press will print from flat electros, type, rubber or plastic plates. Pictured, left to right, are the father and son team of Don and Sidney Gevirtz, co-owners of Pee Cee.



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newspaper black & colors precisely meet all A.N.P.A. standards . . . . . PLUS

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Your Newspaper Deserves the Best!

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For More Information Circle 63 on Reader Service Card

Only the Carlson Finisher Has Complete Visibility

That's why we put the motor out of the way

NO PEERING UNDER

NO BENDING BACK

Seeing exactly what you are doing is the key to accurate, fast outlining and mortising. To get a clear, unobstructed view, the motor and drive of the Carlson Finisher are put *underneath* the table. Plates are placed face up with no locking or blocking needed. You see every line and have perfect control at all times. Work is easier and faster.

When outlining, the cutting tool is raised and the work is moved to the tool, making a perfect vertical cut. The first cut for mortises is pinpointed with the swing-up Locating Pin. The tool is raised through the plate and the mortise is quickly made. In both cases the chips adhere to the dead metal. Cuts right up to live material if necessary.

THE CARLSON FINISHER IS SPECIFICALLY USED FOR MORTISING AND FINISHING BY OVER 150 NEWSPAPERS

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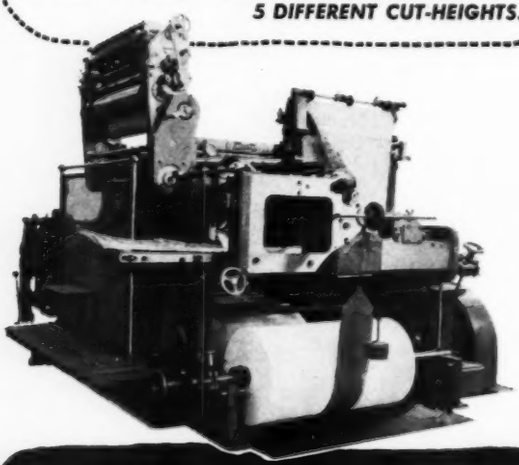


Standard machine with second and third fold, showing attachment for printing in second color on first and last page of newspaper with 4 or more pages — broad sheet.

Engineers for Industry Since 1860

BUHLER BROTHERS, INC., (U.S.A.)

130 COOLIDGE AVENUE, ENGLEWOOD, NEW JERSEY

For More Information Circle 221 on Reader Service Card

Slug Machine Channel Lubricator

In a great many composing rooms machinists do not lubricate the three slide channels properly. These channels for the delivery, second elevator and distributor slides, as is well known, consist of a lower and upper slideway. The main difficulty is to get proper lubrication into the upper or "upsidedown" channel.

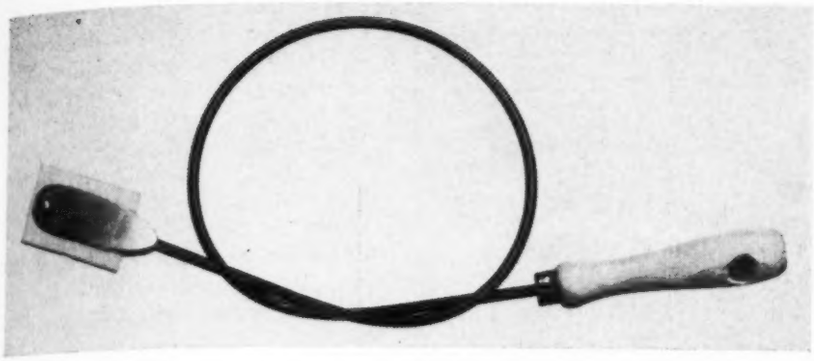
At the Lansing (Mich.) *State Journal*, Chief Machinist Ben Denton devised a channel lubricator. It is shown in looped form in the illustration, to conserve editorial space. Some machinists who use either oil or graphite do not bother to get lubrication into the upper channel, because they feel that in the case of dry graphite "whatever goes up must come down". In other cases, they don't take the time to lubricate the upper channel. Lack of lubrication often results in premature wear in the upper and lower rails of the slides, and delivery slides long finger as well.

Components of Device

The channel lubricator consist of a length of 3/16 diam. by about 20 in. long steel wire coil spring cut from a Cutler-Hammer newspaper conveyor spring with a handle and felt lubricator on opposite ends. Overall length of the tool is 27 in. The dime store wood file handle is 3¾ in. long by ⅞ in. diam. at the biggest dimension. The ferrule is ½ in. by 5/16 in. These handles can be purchased at tool supply houses. The spring is screwed into a hole drilled in the handle approx. 1 in. depth.

At the opposite end of the steel coil spring shank a felt holder is soldered. This is made from 2 pt. brass rule. This felt holder resembles a lop-sided oval in shape. The oval shaped side plates for clamping the felt consist of 2 pt. brass rule, 2¼ in. by 13/16 in. at the widest part. The side plates are soldered to a 3/16 in. separating block at the shank end.

The rectangular shaped 3/16 in. thick piece of stereotyper's hot pad felt which is saturated with *light* oil, is 1⅞ in. wide by 1¼ in. high. The felt is held in place between



the plates at the outer end by a riveted escutcheon stud.

The three slides, reports Denton, are removed for cleaning and inspection at regular intervals, at which time the lubricator felt is pushed entirely through the channel grooves, and its edges wiped with a cloth and re-oiled after each use.

The oiler is used in our plant twice weekly from the left end of the delivery and distributor shifter channels. Since the wire is flexible, it is easily inserted from the right end of the transfer channel.

"Although both machine manufacturers suggest using dry graphite in these channels," Denton said, "we have successfully used a light oil film instead for many years. With the oiler felt it is much easier to apply, and we believe it prolongs the efficient lifetime of finger blocks and slides."

Anyone desiring to adopt this form of lubricator might prefer using high test gasoline and graphite.

Crown Zellerbach to Loan Vocational Printing Film

The motion picture, Printing—A Future Unlimited, produced by the Education Council of the Graphic Arts industry, may now be obtained on a free loan basis from Crown Zellerbach Corp.

Requests for use of the film from east of the Rockies should be addressed: Crown Zellerbach Corp., Regional Printing Paper Div., 36 S. Wabash Ave., Chicago 3, Ill. Requests from west of the Rockies should be addressed: Printing Paper Div., Crown Zellerbach Corp., 343 Sansome St., San Francisco 19.

Crown Zellerbach will pay postage to the film's destination and the recipient will be required to pay return postage.

Compares Photoset

(Continued from Page 66)

does for hot type. In addition to the usual darkroom equipment, we use a waxing machine for coating material for pasteup. There are four specially built pasteup tables with T squares, scissors and make-ready knives. An Ozalid machine is used for proofing the finished product, and a Vandercook production proof press is used for proofing illustrative material up to five full columns.

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8 inch diam. rolls—2 inch diam. center
Each roll is one continuous piece of paper—no splices

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1 carton (36) rolls—36½c per roll
2 cartons (64) rolls—36c per roll
5 cartons (160) rolls—34c per roll
10 cartons (320) rolls—33c per roll
25 cartons (800) rolls—32c per roll

Standing orders for any amount—32c per roll
Color Prices Extra
red, green, yellow, white

A. P. S. Inc.

P O Box 421 American Publishers Supply, Inc. Lynnfield, Mass.

For More Information Circle 8 on Reader Service Card

various procedures from beginning to end. All advertisers must deliver their material as if everything were produced by the hot type process. The dispatch department decides which ads are routed through cold type.

When an ad is selected for cold type, dispatch considers the area covered by art work, nature of composition and layout. Consideration is also given to deadlines. Advertising with angles and other difficult composition is generally selected for cold type. The ad is recorded on the daily run sheet as scheduled, and also on a file card which will show when the ad was received, when the proof was delivered, returned and revised, when the pasteup was delivered to engraving, and when the plate was delivered to the composing room. This record gives a continuous accounting on the progress of the ad.

If customer mats are furnished the stereotype flat casts are sent to the cold type department where proofs are pulled for pasteup of illustrations. If clips are available from advertising service books the clips are substituted for the mats and sent to cold type. This eliminates a lot of flat casting in the stereotype department. The advertiser may send clips of art work instead of mats or cuts, but we do not accept original art work.

ATF Philadelphia Open House — The Philadelphia branch of American Type Founders Co., Inc. recently held an open house to celebrate its move to new quarters at 207-09 N. Broad St. Over 500 printers were present. Pictured are, left to right, Garnet Schellhase, Ed Thayer, and R. D. Rodman, all from Doubleday, Hanover, Pa., watching Harry Stoddard, Typesetter product manager, demonstrate the keyboard unit of the new ATF Typesetter.

Now the ad is in the cold type department where it is marked up especially for phototypesetting. The markup man allows for spacing between lines and between copy blocks, and the Fotosetter operator sets the type accordingly. This makes it possible to paste up large blocks of material instead of handling the work line for line, which would slow up operations.

We are producing approx. line for line with the hot type machines. At present the operators are developing their own exposures, but volume is approaching the point where it would possibly be more practical for a darkroom man to assume this chore along with other duties.

Pasteup Operations

After the prints are developed and dried the pasteup man takes over. He waxes the prints, cuts them apart as necessary, and pastes them into position according to the advertiser's layout. Frequently the pasteup man will start pasteup of borders and illustrations before he receives the prints. If it is neces-

SPEED PRODUCTION WITH RICHARDS'

SAWS • ROUTERS • MORTISERS

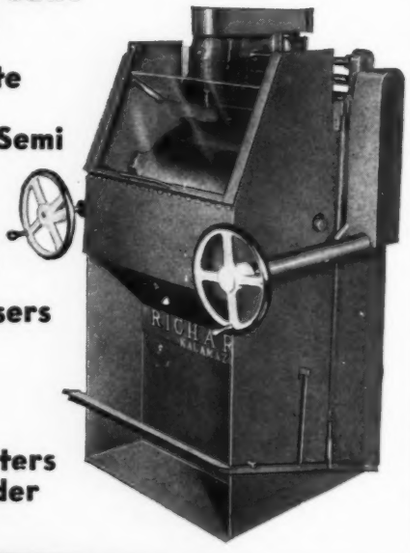
Stereotype Saws Three Sizes

Curved Plate Routers Tubular or Semi

Flat Plate Routers Three Sizes

Plate Mortisers Bench or Pedestal Models

Special Routers Built To Order



J. A. RICHARDS COMPANY

903 N. PITCHER STREET • KALAMAZOO, MICHIGAN

For More Information Circle 150 on Reader Service Card

Photomechanics and Printing

By J. S. Mertle and Gordon L. Monsen

Two authorities have pooled their knowledge in producing a technical book to cover every phase of platemaking and presswork in Graphic Arts reproduction processes.

Valuable source of information for all printing plant and production managers, superintendents and departmental foremen.

Covered are photomechanical platemaking and printing processes for photoengraving, offset, gravure and silk screen, as well as a history of papermaking.

In the U. S. and Canada

$15.25 Postpaid

(Remittance with order)

(In foreign countries, $16.25 postpaid, equivalent U. S. currency)

PRINTING PRODUCTION

1276 W. 3rd St. Cleveland 13, O.

sary for the machine operator to retain the layout during machine composition it is a simple matter to obtain a duplicate by printing an Autopositive on the vacuum frame, and running an exact copy of the layout on the Ozalid. This layout can then be used to advantage in preliminary pasteup.

The pasteup is proofread and corrected before customer proofs are pulled on the Ozalid machine. Proofreading is done directly from the pasteup and corrections are marked on a transparent overlay to avoid defacement of the pasteup.

After final OK of the advertisement the pasteup is delivered to dispatch and relayed to engraving. We try to observe a 4 hr. deadline to engraving. Engraving has produced zinc plates on double trucks in less than 2 hrs. after receiving pasteups. Smaller ads are produced in much less time. This is made possible by the fast-etch process. The finished plate is delivered to dispatch with the original pasteup. Dispatch checks the plate out to the composing room and files the pasteup for future use of any elements that can be salvaged. Zinc plates are held on file for 30 days.

To maintain complete flexibility between hot type and cold type we are constantly training personnel in the new process. Duplicating the type faces in both departments makes it possible to obtain similar results in the final appearance of any ad regardless of the process used. Often the advertiser wishes to make changes between scheduled runs. We can accommodate him by mortising the zinc and inserting corrections in the same type face from the hot type department without making a new zinc plate.

We are approx. at the breakeven point in photocomposition with hot type. This means we have increased production of inches per man-hr. by a percentage which more than covers the cost of engraving. In addition, we have realized considerable saving in the stripcasting department. We now operate three border and space material machines two shifts where we formerly operated the same machines three shifts. To accomplish this we use steel base extensively for zinc plates.

SNPA Eastern Div. Conference Report

Over 400 persons attended the 17th annual Southern Newspaper Publishers Assoc. Mechanical Conference, Eastern Division, held recently at the Hotel Dinkler Plaza, Atlanta, Ga. Girt S. Cochrane, mechanical superintendent, Charleston (W. Va.) *Gazette*, was chairman of the conference and presided over the sessions. The welcome address was presented by George C. Biggers, jr., vice president and business manager, Atlanta Newspapers, Inc.

Included in the program were group discussions for machinists, mechanical superintendents and production managers. Taking part in a general session on "New Ideas and Research Developments" were: Earl N. Godshall, vice president sales, Photon, Incorporated; Paul S. Chisholm, general sales manager, Mergenthaler Linotype Co., and Everett L. Mills, sales manager, Flint Ink Corp.

Separate departmental group

ENGINEERING FOR THE GRAPHIC ARTS

TO MEET GROWTH REQUIREMENTS

- ANALYSIS OF PRESENT OPERATIONS
- REPORTS AND RECOMMENDATIONS
- PLANS AND SPECIFICATIONS
  - plant rearrangement
  - plant extension
  - new plant
- CONSTRUCTION MANAGEMENT

•

CHAS. T. MAIN, INC.

BOSTON, MASSACHUSETTS • CHARLOTTE, NORTH CAROLINA

For More Information Circle 110 on Reader Service Card

Newspaper production needs to stay in the FAIRWAYS

A golfer may be a wizard at getting out of the rough, but he yields to the rival who sticks to the fairways . . . However adept a stereo crew may be in correcting troubles, they cannot beat the paper that avoids stereo difficulties . . . Certified Mats keep many papers in the fairways of production.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 555 Fifth Avenue, Dept. M, New York 17, N. Y.

For More Information Circle 36 on Reader Service Card

New Building for Ideal Roller—Ideal Roller & Mfg. Co. has constructed a new office building at its Huntington Park, Calif. factory. The building is made of Palos Verde stone and aluminum siding and is completely air conditioned. It includes private offices and conference rooms. R. H. Neale is Ideal's Pacific manager.

meetings were held for the discussion of technical problems within the various crafts and correlating reports on these meetings were given all delegates by leaders of the respective groups. Other talks were as follows: *Foremen Are People Too*, by J. W. West, newspaper consultant, Augusta, Ga.; *Pricing Ourselves Out of Freedom*, by Bert Struby, general manager, Macon (Ga.) *Telegraph* and *News*, and *My First Fifty Years*, by O. M. Harper, mechanical superintendent, Tulsa (Okla.) *World* and *Tribune*.

Girt Cochrane was re-elected chairman for the 1959 conference and D. H. Lawson, color plant superintendent, Newport News (Va.) Daily Press, Inc., was elected vice president. The 1959 conference will be held at the Hotel Dinkler Plaza, Atlanta, Aug. 9-11.

Use the convenient yellow Reader Service Card found in this issue for requesting free literature found in PRINTING PRODUCTION's Graphic Arts Literature section.

Understanding Paper

(Continued from Page 45)

making the halftones is the principal factor in determining the optimum range of finish of the paper. As a rule, in commercial practice the reverse happens: The customer decides on the paper to be used and the halftone screens are matched.

Book and magazine printing constitute the major portion of printed work. Although the paper industry has not yet standardized the finishes of the different grades, it has been found that in book and magazine work the combinations of paper and halftone screens shown in the accompanying table will yield the best reproduction and cleanest printing in letterpress production runs.

Kind of Paper	Screen Fineness Lines per in.
B Grade M. F. and E. F. . .	100
A Grade M. F. and E. F. .	100-110
B Grade Super	100-110
A Grade Super	110-120
Machine coated	110-120
Off machine coated	120-133

FOR MORE EFFICIENT NEWSPAPER OPERATION USE CAPCO PRODUCTS

CAPCO REWINDER SAVES NEWSPRINT

Save up to 4 rolls of newsprint a day of usable newsprint now going as core waste.

HELP KEEP PRODUCTION COSTS DOWN WITH CAPCO NEWSPAPER EQUIPMENT!

★ **CAPCO PORTABLE INK FOUNTAIN**
Increases production, cuts pressroom costs—provides color efficiently.

★ **CAPCO CORE STRIPPER**
Strips up to 5 cores simultaneously.

★ **CAPCO PLATE GAUGE**
Designed for checking thickness of stereo plates, tubular and flat plates.

★ **CAPCO "FACE-O-TYPE" MACHINE**
Mechanically reproduces engraved type screen pattern on type, slugs, borders.

For complete details on any CAPCO Products write

CAPITAL TOOL & MANUFACTURING CO.

5000 CALVERT ROAD, COLLEGE PARK, MD. • UNion 4-7677

For More Information Circle 28 on Reader Service Card

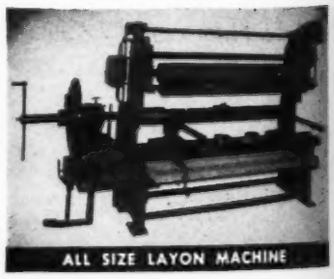
Hairline Register

CAN BE OBTAINED WITH A

STANDARD PROCESS GRAVURE LAYON MACHINE

CLOSEST ACCURACY AT YOUR FINGERTIPS

Now, transfer in PERFECT REGISTER any given layout to any number of gravure cylinders. EXCLUSIVE METHOD of micro adjustments lock the cylinder in the machine with PRECISION EXACTNESS both circumferentially and horizontally.



ALL SIZE LAYON MACHINE

STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment and Supplies

2704 WEST ROSCOE STREET

CHICAGO 18, ILLINOIS

For More Information Circle 196 on Reader Service Card

It is true that screens finer than those recommended can be printed, but it is equally true that on production runs the finished work will not be uniformly as good. The halftone screen and the paper surface must harmonize. The paper must be sufficiently smooth to permit each dot to print cleanly and without distortion. If the paper is too rough for the screen used, the printing will be muddy, as the inequalities in the paper surface will pick ink from the spaces between the dots, since fine screen halftones are not etched as deeply as coarser ones.

In addition to the muddiness caused by the ink being picked up from non-printing areas, the dots will print unevently and in some cases, not all, giving the final print a broken, as well as muddy, appearance.

Finer screens generally are used in offset and gravure, due to the mechanical differences in the methods.

Picking of coated paper may be either the coating lifting off the body stock or the body stock itself giving way. As far as the printer is concerned, the result is the same in either case. The papermaker, however, must know which happened in order that he can correct the trouble on future shipments.

Philadelphia Firm Adds Miehle—Edward Stern & Co., Philadelphia, recently installed a new Miehle No. 49 two color offset press. Inspecting a sheet from the press are, left to right, Ralph D. Littlefield, offset pressroom foreman; Phillip E. Tobias, director of research engineering, and William J. Stevens, manager, Miehle's Philadelphia office.

Surface Strength

At times, the surface of the paper may lift in large sections, which may or may not come completely off the body of the sheet. If it comes off, the white spots on the printed matter and the corresponding patches on the plates and subsequent prints are much larger than when the picking is in small areas.

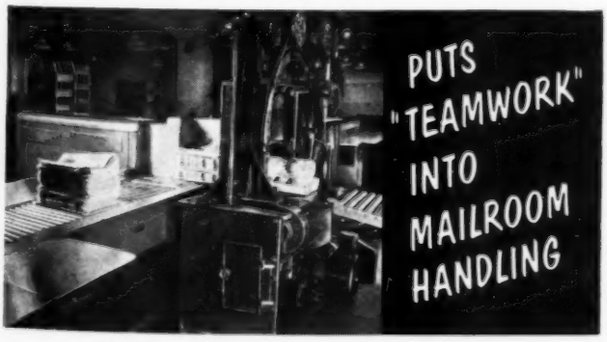
At times this surface lifting results in a blistered appearance of the printed sheet, rather than in a complete separation of the surface and body of the paper. This blistered appearance should not be confused with blistering of machine coated paper on web presses equipped with heat-set equipment; that blistering is caused by moisture in the body stock, and is found in heavily inked areas at almost the

JAMPOL methods and Equipment...

Watch a Jampol mailroom handling system at work—with attention to the "teamworking" of the various units. You'll see why it handles any bundle load, moves more newspapers, meets every need—faster and at lower cost.

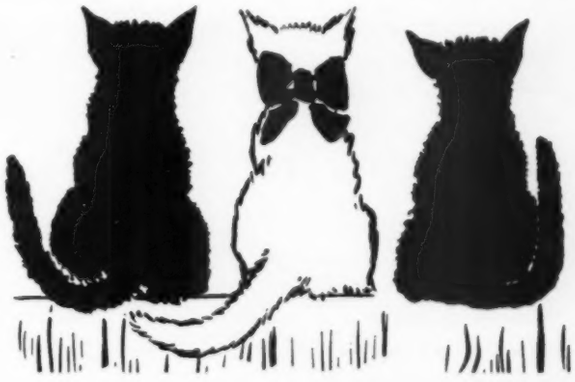
Take advantage of the efficiency, simplicity and economy Jampol methods and equipment can bring to your plant.

Let's discuss your specific requirements.



the JAMPOL COMPANY, Inc.
General Offices and Factory
6044 **728-742 61st Street, Brooklyn 20, New York**

For More Information Circle 192 on Reader Service Card



ONE always stands out?

● Yes, in a group, one always stands out and in the mat field it's BEVERIDGE MATS. These quality mats pick up the dots easily, give clean release of plates in casting and have exceptionally deep moulding qualities. Make sure your mat reproductions **stand out** everytime—use only BEVERIDGE MATS.

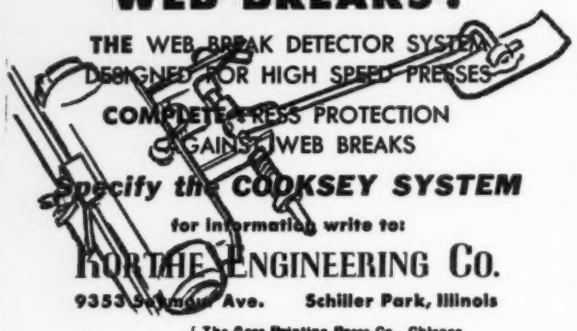
Beveridge Dry Mats

New Products Division of
The Beveridge Paper Company
705 W. Washington Street ● Indianapolis 4, Ind.

For More Information Circle 20 on Reader Service Card

WEB BREAKS?

THE WEB BREAK DETECTOR SYSTEM
DESIGNED FOR HIGH SPEED PRESSES
COMPLETE PRESS PROTECTION
AGAINST WEB BREAKS



Specify the **COOKSEY SYSTEM**
for information write to:
KORTHE ENGINEERING CO.
9353 Seymour Ave. Schiller Park, Illinois
Sales Agents { The Goss Printing Press Co., Chicago
R. Hoe & Co., New York
Wood Newspaper Machinery Co., New York

For More Information Circle 99 on Reader Service Card

NEW! SLUG-GAUGE
measures "TYPE-HIGH"
and
BODY THICKNESS

- LINE CAST SLUGS
- RULES
- BORDERS
- SPACE MATERIAL
- MOUNTED CUTS
- STEREO FLAT CASTS
- ELECTROS
- PLASTICS
- ENGRAVINGS
- PAPER
- BLANKETS

ALICO, Inc. MONTAGUE, MASS.

For More Information Circle 5 on Reader Service Card

same spot on each succeeding impression.

Softening the ink or slowing down the press are the only ways of overcoming picking. Slowing down the press cuts production, so the usual remedy is to soften the ink. Even this does not always accomplish the desired result, depending on how weak the paper surface proves to be. Ink softening is best done by adding a softer ink of the same color, which does not reduce the color value of the ink.

The addition of kerosene, wax compounds, soft varnishes, or oils reduces the color strength of an ink in the exact proportion of the added material.

When softening the ink as much as possible and also slowing down the press does not eliminate the picking, the only remaining remedy is to eliminate the defective paper from that particular job.

It is obviously impossible to sort out defective sheets in a skid of blank paper, so the whole skid has to be rejected.

In roll stock, a roll can be rejected in the hope that succeeding rolls will be of proper quality. It is sometimes possible to use the paper on another job, where the solid areas are not so large, or if the trouble occurs in multi-color printing, it may work satisfactorily on jobs where only one color is used.

(To Be Continued)

REVISED EDITION

Graphic Arts Procedures

By R. RANDOLPH KARCH

The fourth printing of a useful book on the fundamentals of printing. Written for the printer, printing student, apprentice, artist, copywriter, advertising and business executive. Includes: 384 pages; 257 illustrations; chapters on printing processes, type faces, layouts, proofreading, printing plates, imposition, presswork, bindery work and platemaking; 17 pages of definitions of Graphic Arts terms.

$4.65 per copy postpaid Cash with order

(Outside U.S.A. $5.65)

★★★★

PRINTING PRODUCTION

1276 W. 3rd St. Cleveland 13, O.

Powderless Etching

(Continued from Page 59)

placed between the screen and the holder to throw the bottom (or top) about 1/8 in. farther away from the film.

A small screen is best for making tests since a greater relative difference is obtainable over a smaller area. With the screen set for the approximate distance, a detail exposure is made through the desired lens stop. The film is developed and examined to determine where the dot is best. If no suitable dot formation is obtained on the first test, then the screen is moved 1/8 in. and the test repeated. When the correct dot is found on the film, this part of the film is noted and the screen distance at this point is measured with a wedge and then used for future settings.

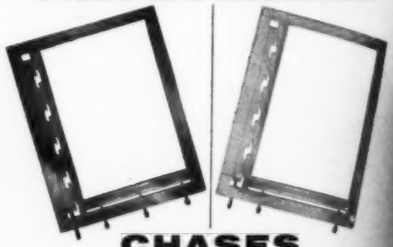
In practice it will be found that an *f*32 stop is satisfactory for detail exposures. A highlight exposure jump usually improves highlight detail and gradation, but no exact rule can be applied to the highlight stop since it is sensitive to and influenced by the screen opening ratio which is not exactly the same for every screen of the same ruling.

With a three-stop jump for the

QUICKSET INK CONDITIONER
TRIK®
for work-&-turn litho and letterpress . . . eliminates messy non-offset spray.
1 lb. can $2.20 Send for Price List
CENTRAL COMPOUNDING COMPANY
1723 N. Damen Ave. • Chicago 47, Illinois
Mfrs. of Glazcote, 20/20 Overprint Varnish, 33 & 0-33 Ink Conditioners

Circle 34 on Reader Service Card

AMSCO
STEEL and ALUMINUM



CHASES
THE BEST AND MOST ECONOMICAL MONEY CAN BUY!
Amsco's electrically welded steel chases, with the smoothly ground joints are world renowned.
Amsco Aluminum Chases are specifically made for operations wherein lightness is a desired factor. Steel insert supports reduce wear to a minimum at the contact points of the foot stick and side wedge screws.
Squared and true Amsco Chases are patterned from a template or a blue print.
Amsco supplies a "complete chase line", for newspapers, commercial printers, stereotypers and electrotypers. Standards or specials are available.
CATALOG AVAILABLE FROM DEALERS OR WRITE DIRECT
AMERICAN STEEL CHASE CO.
31-31 FORTY-EIGHTH AVENUE
LONG ISLAND CITY 1, N. Y.
Circle 9 on Reader Service Card

TO HELP BOTH OF US...

Any changes that should be made on your address plate can best be done with this card. If possible, attach your present magazine wrapper address to "Old Address" section. When filling in new address, please be sure to give your title and zone number.

MY OLD ADDRESS READ:

(THE EASIEST AND BEST WAY TO GIVE US THIS INFORMATION IS TO CUT OUT THE ADDRESS SECTION OF YOUR MAGAZINE WRAPPER AND ATTACH TO THIS CARD)

NAME _____

COMPANY _____

COMPANY ADDRESS _____

CITY _____ ZONE ____ STATE _____

KEY NO. _____

MY NEW ADDRESS IS:

NAME _____

TITLE AND DEPT. _____

COMPANY _____

COMPANY ADDRESS _____

CITY _____ ZONE ____ STATE _____

FIRST CLASS
PERMIT NO. 2205
CLEVELAND, OHIO

BUSINESS REPLY CARD
No Postage Stamp Necessary If Mailed In the United States

POSTAGE WILL BE PAID BY

PRINTING PRODUCTION
1276 West 3rd Street
CLEVELAND 13, OHIO

READER SERVICE DEPARTMENT

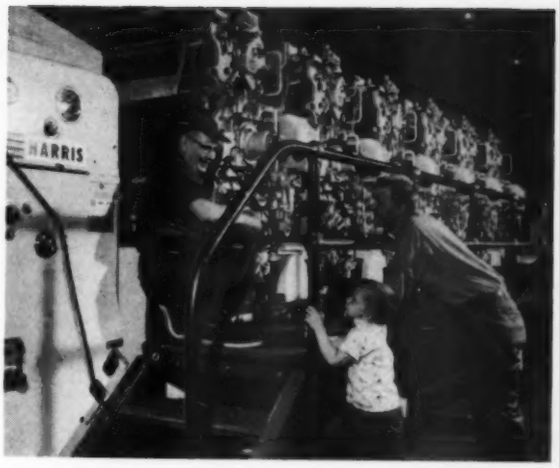
FOR YOUR CONVENIENCE.

See other side of this card for the quickest and best way to let us know of any change that should be made in your address.

highlight, an exposure of about 4/100 of the detail time might be tried and then adjusted for the effect desired. A series of test exposures using various highlight stops and times combined with a constant detail exposure will show how markedly this affects the tonal gradation in the highlights. The flash exposure may be made to white paper or a flash lamp. The selection of the stop is important, particularly when making coarse screen halftones. Too small a stop produces undesirable diffraction effects. The shadow dot will begin to diffuse and separate into four small points if too small flash stops are used.

A series of tests should be made to discover the best flash stop to use, beginning at *f*90 and working both ways.

Since there is little degrading of detail toward the shadow end of the halftone negative, this fact may be used to advantage when making screened halftones for color work to be etched by the Dow method. Continuous tone masked negatives can be made and then positives screened from these; after which negatives are made by contact for printing on metal. This switch permits the highlights to be formed by what would normally be the shadow dots which are free of diffraction and easy to control. The resulting loss of detail is less consequential—particularly in color work.



Views Six Color Press — Ronnie Dombrowski, 4½ years, inspects Harris-Seybold Company's first six color offset press before it was shipped from the firm's Cleveland plant. Grandfather Harry Dombrowski, left, and father Don, right, helped to build the press which prints six colors on a 43 in. by 59 in. sheet. It was shipped to a new plant in Clinton, Ia., constructed by Lord Baltimore Press, color lithographers and boxmakers.

Velox Halftone Copy

Velox prints intended for paste-ups should be made with the etching process in mind. If the Dow process is used, then a tight highlight is necessary, but it should not be smaller than 15% since rephotographing as line further decreases the highlight dot size.

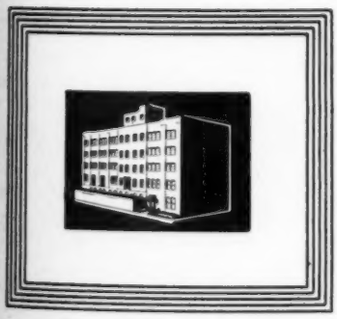
These new methods represent a tremendous break-through in letterpress platemaking and the photographer should help to exploit this condition by producing negatives that have full tonal gradation and which are sufficiently high as not to require re-etching.

offset plates by

Graphic Arts Corporation of Ohio

Our thirty years' experience in color and in black and white work, assures you of printing plates of the highest quality.

110 OTTAWA STREET • TOLEDO 4, OHIO

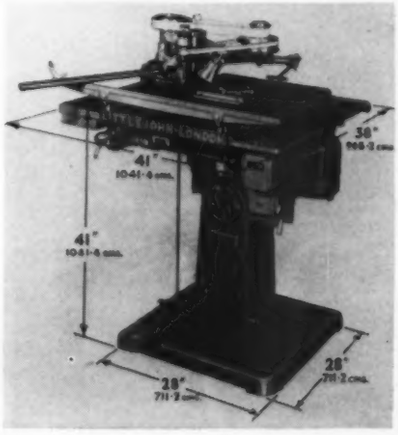


New York Office
342 Madison Ave.
Room 712
New York 17, New York

Chicago Office
201 North Wells St.
Room 722
Chicago 6, Illinois

For More Information Circle 74 on Reader Service Card

WITHOUT A SHADOW OF DOUBT



THE LITTLEJOHN TYPE 52 RADIAL ARM ROUTER PUTS THEM ALL IN THE SHADE!

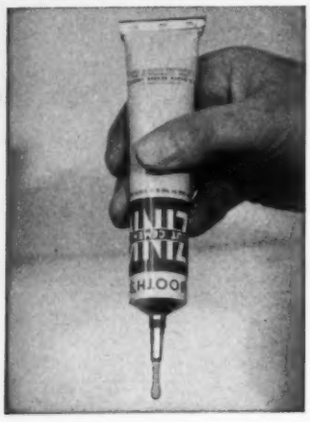
- ★ **Precision engineered throughout.**
- ★ **Low-voltage lighting unit, for illuminating cutter.**
- ★ **High Speed for free cutting on any metal. Head speed 20,000 r. p. m.**
- ★ **Automatic filtered lubrication to all bearings.**
- ★ **Positive plate-clamping with automatic locating device.**

OVER 350 LITTLEJOHN ROUTERS IN DAILY SERVICE

HENRY P. KORN

5 Beekman Street
New York 38, New York
Phone: REctor 2-5808

For More Information Circle 216 on Reader Service Card



Use
ONLY THE BEST!
Use
BOOTH ZINK CUT CEMENT!

Years of constant use have proved the superiority of Booth Zink Cut Cement in Composing and Stereotype Departments.

Only—
$1.00 per tube—$7.50 per dozen
F. O. B. Cleveland, Ohio

E. A. BOOTH RUBBER CO.
2855 Scarboro Road
Cleveland Heights 18, Ohio
Phone: FAirmount 1-2384

Circle 22 on Reader Service Card

LINOTYPE-INTERTYPE MATS—NOW COST 32¢ & UP

Can you still afford to throw them away because of bad alignment?

The *Align-A-Mat*

This simple device will double and triple the life of your working fonts. It will restore to factory standard hundreds of mats ready to be discarded. When sorting up fonts, old mats corrected on the **Align-A-Mat** will align perfectly with new ones. Distributor stops due to the lugs worn short will also be eliminated. **Price $145.**

EVERY MAT SAVED IS 32¢ SAVED

Now in use in hundreds of leading plants here, in Canada and abroad.

Please write for literature.

FISK, 130 W. 46th St., N. Y. 36, N. Y.

Circle 62 on Reader Service Card

Helpful Literature

(Continued from Page 40)

INK AND SOLVENTS

Literature has been prepared by Roll-O-Graphic Corp. to describe its Rol-Cor rub resistant silver and gold offset ink, Litho-Klene one step press wash up, Hi-Klene blanket and roller wash and its Rudax plastic ink rollers. Circle No. 328 on Reader Service Card.

UNION FOR COOLING SYSTEMS LITERATURE

Literature regarding Roms, Incorporated's rotating unions for printing press ink carriage cooling systems is available. Unions are flame-coated with corrosion-proof ceramic seats and sealed bearings. Circle No. 321 on Reader Service Card.

MULTIPRESS LITERATURE

Descriptive literature concerning the Multipress printing press is available from B. Verner & Co., Inc. It is claimed press is suitable for imprinting, envelope printing and various types of specialty printing. Circle No. 343 on Reader Service Card.

Miscellaneous

GERRARD STRAPPING MACHINE

The Gerrard Model 12 automatic steel strapping machine is illustrated and discussed in a folder issued by Gerrard Steel Strapping, Div. United States Steel Corp. Also offered is a *Blue Book of Packaging* in which details on Gerrard products are presented. Circle No. 336 on Reader Service Card.

UNIVERSAL II TEST PRESS

Vandercook & Sons, Inc. is offering a folder in which is contained features and detailed views of its new Universal II test press. Available either hand or power operated, press will take a maximum plate size 18 in. by 24 in. It is furnished with automatic ink feed and automatic washup. Circle No. 335 on Reader Service Card.

ELECTRIC POWERED INDUSTRIAL TRUCK

Elwell-Parker Electric Co. has announced publication of a four page folder regarding its Model F-45T4 electric powered industrial truck. Available in 68 in. and 83 in. high models, truck is said to have a 4000 lb. capacity. Circle No. 319 on Reader Service Card.

POWER BELT CONVEYOR

Econ-O-Veyor Corporation is offering a specification sheet concerning its telescoping power belt conveyor. Unit is a motor driven belt conveyor said to be capable of carrying light or heavy loads on continuous duty. Circle No. 307 on Reader Service Card.

PORTABLE DESK-TOP COLLATOR

Thomas Collators, Inc. recently published a bulletin to describe its portable desk top collator. Unit is said to handle up to 120 sheets of 20 sets of six sheets per min. of any weight of paper from tissue to ⅛ in. cardboard. Two models, electric powered and mechanical or hand operated, are offered. Circle No. 315 on Reader Service Card.

FOSTER STORAGE EQUIPMENT

A catalog of storage equipment for letterpress, newspaper and offset plants has been prepared by Foster Manufacturing Co. Items featured for the first time include gear track stripping and line up tables, rub up and developing table tops, portable stock trucks, combination galley cabinet and material rack, and makeup and storage benches. Circle No. 311 on Reader Service Card.

MATERIALS HANDLING EQUIPMENT

A. J. Gerrard & Co. has published a 32 page catalog entitled, *Handbook of Strapping and Materials Handling Equipment.* Application photos, charts and information concerning the firm's steelbinder, strapbinder, bulkbinder, wirebinder, tapebinder and specialty products are given. Circle No. 312 on Reader Service Card.

MATERIALS HANDLING SYSTEMS

Gifford-Wood has published a bulletin concerning its engineered materials handling systems. The company installs electric and pneumatic drops and lifts for newsprint rolls, horizontal conveyors and automatic interfloor handling systems for stereotype plates. Circle No. 332 on Reader Service Card.

ALGRIP FLOOR PLATE

Alan Wood Steel Co. has released its A. W. Algrip booklet, AL-E30. Algrip abrasive rolled steel floor plate is recommended for safe footing wherever slipping hazards exist in a plant. Circle No. 333 on Reader Service Card.

SENSITIZED ALUMINUM FOIL

Grover PermaFoil sensitized anodized aluminum foil is the subject of an illustrated folder released by Grover Photo Products. PermaFoil, available in sheets 10 in. by 13 in., can be used for nameplates, trade marks, identification markers, etc. Other Graphic Arts products handled by Grover are also described in the folder. Circle No. 324 on Reader Service Card.

EASTERN CATALOG

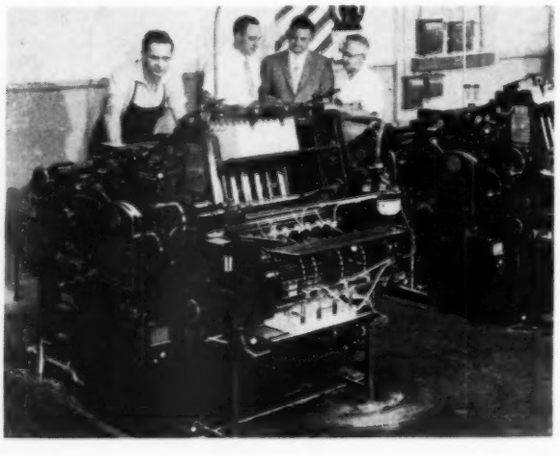
Descriptions of more than 500 products for newspaper printing are given in a catalog available from Eastern Newspaper Supply, Inc. Included are supplies and equipment for the composing room, stereotype department, engraving department, and pressroom. Circle No. 338 on Reader Service Card.

RING BINDER BOOKLET

A three color 14 page booklet in which job ticket holders, ring binders, covers, sample kits, and other specialty items are described is being offered by Simon Products Co. Job ticket holders are transparent vinyl with Fabrikoid binding. Circle No. 345 on Reader Service Card.

NEWSPAPER EQUIPMENT CATALOG

New England Newspaper Supply Co. is offering catalog No. 51 descriptive of its line of equipment and supplies for newspaper composing, stereotype, and pressrooms. Emphasis is placed on newspaper press blankets. Circle No. 344 on Reader Service Card.



Installs Two Heidelbergs—Two 15 in. by 20½ in. Original Heidelberg cylinder presses were installed recently by Murray & Gee, Inc., Culver City, Calif. Pictured, left to right: Richard Sundquist, operator; A. J. Falick, president, Murray & Gee; Creigh McIntyre, Heidelberg sales representative, and William Sullet, press foreman.

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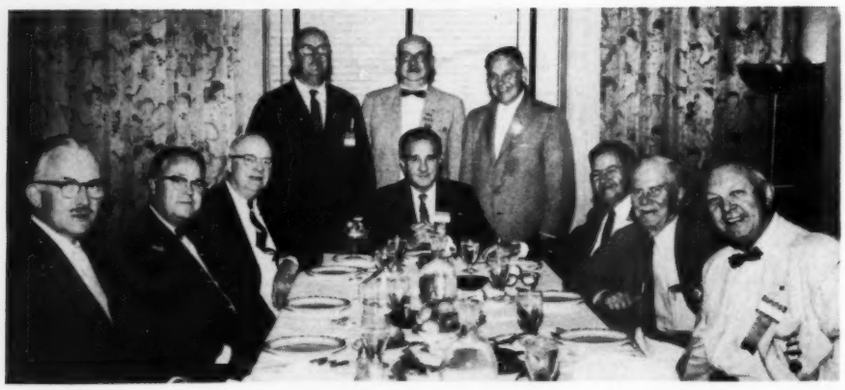

Craftsmen's Past Presidents Get Together—On the night of August 10, previous to the opening of the Detroit Craftsmen's 1958 convention, Statler-Hilton Hotel, a number of past presidents of the Intl. Assoc. of Printing House Craftsmen got together.

Seated clockwise: Thomas P. Mahoney, Gradie Oakes, Augustus E. Giegengack, J. Homer Winkler who functioned as moderator, Perry R. Long (first Intl. president who passed away Aug. 23 in Temple City, Calif.); Fred C. Ballie and Howard N. King. Standing (l. to r.): Gordon J. Holmquist, George Wise, and Amadeo R. Tommasini.

3M Files Infringement Suits

Minnesota Mining & Mfg. Co. has filed suit charging Polychrome Corp., Yonkers, N. Y., with infringing 3M's patent No. 2,714,066, on presensitized metal lithographic plates. The suit, filed in U. S. District Court, Chicago, also names as defendants the manager of Polychrome's Chicago branch office and two of the firm's Chicago sales representatives.

Infringement suits based upon the same patent have also been filed in U. S. District Court at Wichita, Kan., against Bewal, Inc., Wichita, and in U. S. District Court, Cleveland, against Carpenter Printing Co., Cleveland.

Executive Sees Technicians Taking Over Graphic Arts

Printing plants of the future will contain more college graduates and technicians than any other class of personnel. Leslie C. Shomo, president of the Educational Council of the Graphic Arts Industry, told the Ohio State Apprenticeship Conference (Cleveland, Sept. 9) that formally-schooled employees would predominate over craftsmen and unskilled and semi-skilled labor—in sharp contrast to the personnel makeup today.

This change in the personnel picture will be made necessary by modern demands on the printing industry.

"You had better make sure that the young people you are hiring today are the kind of people who will be able to manage the plant of tomorrow," he advised printing executives. "These young people are available and we in the Education Council can help make them available."

Shomo is executive vice president of the National Publishing Co. at 301 N Street N.E., Washington, D. C.

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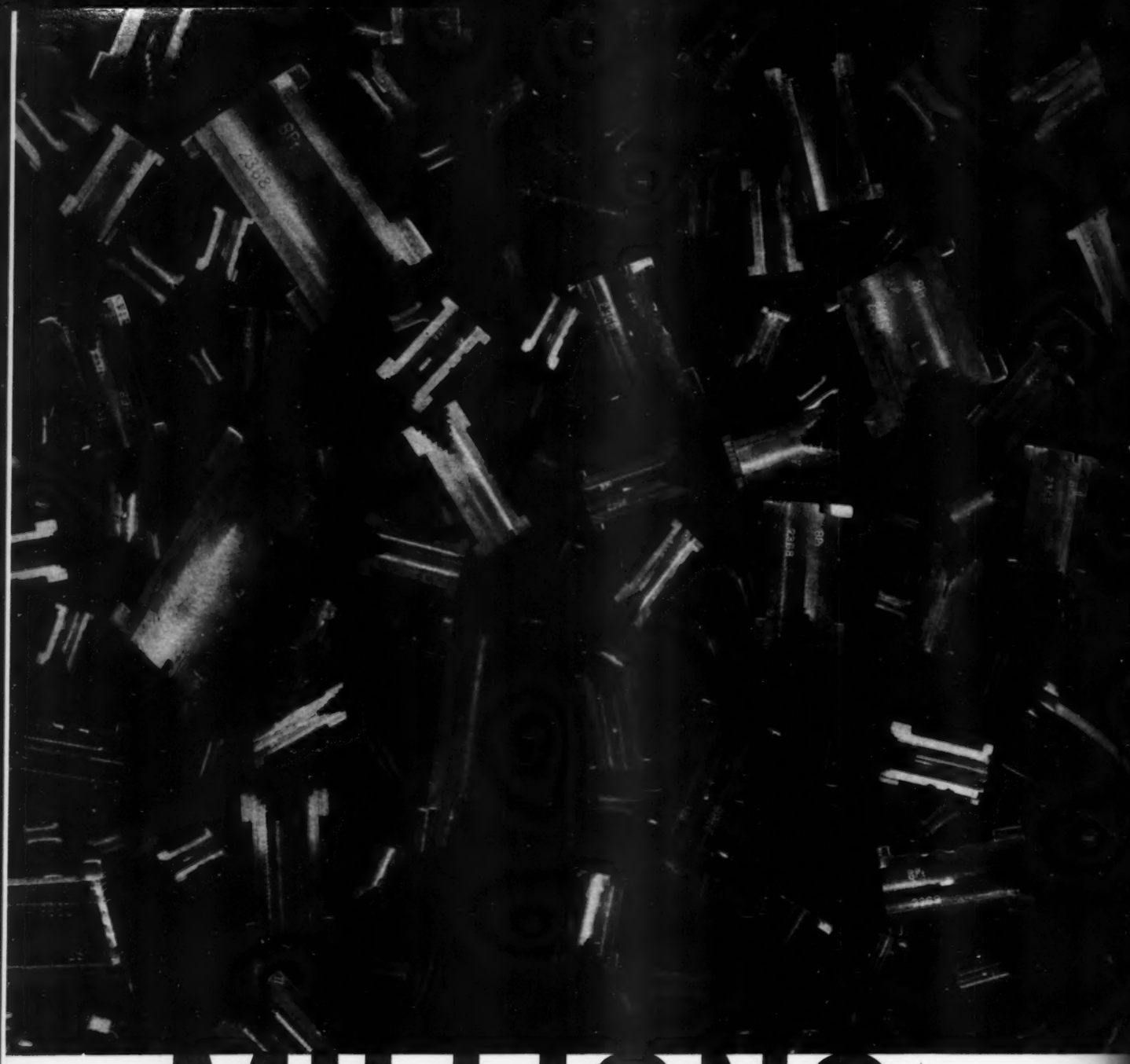

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